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## ADDRESS IN SURGERY

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THE first words of this address must give expression to the first thought that arose within me when I received from my old friend and house-surgeon, Dr. E. W. Allin, the message requesting me to deliver the Address in Surgery before this meeting of the Canadian Medical Association. This first thought was that it was the greatest compliment that had been paid to me, and subsequent reflection has only increased my appreciation of the honour.

Like an after-dinner speaker, I might attempt to disarm your criticism and make a preliminary bid for your indulgence by depreciating my worthiness and disparaging my oratorical abilities; but I think that it will be better policy, and I know that it will be better manners, to assume that you will be

"To my faults a little blind  
And to my virtues very kind,"

and to embark, without further preliminary, upon the subject of my address. You will not expect excursions into the domain of general surgery from one who for twenty years has worked in the more restricted field of one of its special departments; but the general surgeon and the gynæcologist meet on the common ground of abdominal surgery; and as this theme fulfils the double condition of falling legitimately under the description of "an address in surgery," and also allowing me to speak on a subject with which I may claim some acquaintance, I will ask for your indulgent attention to some remarks on "The widening of the scope of abdominal surgery from life-saving to health-restoring operations."

Delivered before the Canadian Medical Association at Edmonton, August 12th, 1912.

It is interesting to recall the fact that abdominal surgery is only a little over a hundred years old; because, although various abdominal operations have been performed by heroic surgeons from the earliest times, it was the establishment upon a secure basis of the operation of ovariectomy that secured the proper recognition of abdominal surgery generally. The first successful ovariectomy was one of the triumphs of the New World, for it was performed by Ephraim McDowell, of Kentucky, in the year 1809. Naturally, this historical case did not by itself establish ovariectomy upon a secure basis; on the contrary, for many years there was much opposition and there were few cases. McDowell himself performed the operation only twelve times, with eight recoveries; and for the span of a generation the attitude of the profession was mainly one either of scepticism or of more or less thinly veiled disapproval. The next important advance was made by Charles Clay, of Manchester; his first successful ovariectomy was in 1842, and in all he operated on three hundred and ninety-five patients, with one hundred and one deaths, his mortality being thus about 25 per cent. Think of the courage that must have been required to persevere in the performance and the advocacy of an operation that was attended, at its best, with a mortality of 25 per cent. In 1861, Tyler Smith, speaking from the presidential chair of the Obstetrical Society of London, could utter these pessimistic words, "In the long run, I believe, the results cannot be favourable, either in general or special hospitals." Happily, Tyler Smith's gloomy forecast has not been fulfilled; and by way of illustration and commentary I may mention that at the Chelsea Hospital for Women during the twenty-five years, 1885 to 1910, eight hundred and forty-eight ovariectomies were performed, with forty-seven deaths, giving a mortality of 5.5 per cent.; and if we compare the beginning and the end of this period, we find that in the first five years there were seventy ovariectomies, with nine deaths, or 12.8 per cent.; whilst, in the last five years, there were two hundred and four ovariectomies, with seven deaths, or 3.4 per cent. The results in general hospitals, which at one time were deplorable according to our present standard, are now practically as good as in the special hospitals. Comparing my own cases at the two hospitals with which I am connected, one a general and the other a special hospital, I find that at the Prince of Wales' General Hospital, Tottenham, I have had one hundred and forty-eight ovariectomies with five deaths, a mortality of 3.3 per cent.; whilst at the Chelsea Hospital for Women I have had one hundred and six ovariectomies with three deaths, or 2.8 per cent.

Naturally, the later results are rather better than the earlier ones; the figures for the last ten years, from July, 1902, to July, 1912, for the two hospitals combined, work out at two hundred and twenty-three cases with five deaths, or 2.2 per cent.

It would take too long to enumerate the successive steps by which the mortality of ovariectomy was progressively lowered; nor can I here pay the tribute of recognition and praise to the brave and brilliant workers who, through good and evil report, persevered in perfecting the operation; it must suffice to recall that the three great factors that revolutionized the results of ovariectomy and laid the foundations of modern abdominal surgery, were, first, the discovery of chloroform anæsthesia by Simpson; secondly, the perfection of technique, in which Spencer Wells played such a notable part; and thirdly, the introduction, by the genius of Pasteur and Lister, of antiseptics and asepsis.

It is difficult for us to imagine the performance of an abdominal operation without anæsthesia; and when thinking of the pre-anæsthetic days, probably our first impulse is to thank heaven that we are not called upon to operate under such conditions. It is, therefore, a matter of great interest that we have preserved for us a record of the impressions of a man who operated both without and with anæsthesia. Charles Clay began his work before the discovery of chloroform, and one would have imagined that he would have viewed the introduction of anæsthesia with unmixed satisfaction; yet, in 1863, when he had performed one hundred and eight ovariectomies, with seventy-four recoveries, he appeared to be distinctly doubtful of the value of anæsthesia; for in a paper entitled "Observations on Ovariectomy," we find this curious passage: "With regard to the use of chloroform, I am not certain if this agent has really added to the success of ovarian operations. The first fourteen of my cases were undertaken before it was discovered, and of these fourteen, nine recovered. But, though I willingly admit the almost impossibility of obtaining the consent of females (at the present time) to submit to so formidable an operation without the aid of this valuable agent, and though I am equally convinced that chloroform is of itself one of the greatest boons to suffering humanity, yet, if it could be accomplished, I should infinitely prefer to operate without it, as the patient would bring to bear on her case a nerve and determination to meet so great a trial, which would assist beyond all value the after-treatment; it would also relieve the case from that most distressful retching and vomiting so common after all abdominal operations where it is used to the extent that is required in ovariectomy."

Anæsthesia and improvements in technique conspicuously lowered the mortality of ovariectomy by lessening two of the great risks; namely, shock and hæmorrhage; but even so, the mortality was still very high. In 1878, when Spencer Wells had completed nine hundred cases, there were seventeen deaths in his last one hundred. This was because the greatest danger, that of septicæmia, had not been removed, and it was reserved for Lister to defeat this formidable enemy of the surgeon and of mankind. It is through his labours, and those of his disciples all over the civilized world, that we, at the present day, can undertake these serious operations with light hearts; and when I record before you my last ten years' results, with a mortality of a little over 2 per cent., I do so in no spirit of boastfulness or self-aggrandisement; but in doing so, I place a wreath of veneration and gratitude on the shrine of the mighty dead.

The admission of ovariectomy to a recognized place in surgery was, of course, not a sudden event that could be assigned to a particular date, or even a particular year. The growth of its recognition was gradual, but we may say that twenty-five years ago this recognition was an accomplished fact. By this time, many surgeons, encouraged by the results of ovariectomy, were performing abdominal operations for other conditions. As far back as 1863, Charles Clay performed the first successful hysterectomy for fibroids by the intra-peritoneal method; and in the same year Koeberlé of Strasbourg carried out the first hysterectomy by means of the *serre-nœud* and the extra-peritoneal treatment of the stump. In 1879 Lawson Tait performed the first operation for the removal of inflamed tubes, and the same year witnessed the performance of Battey's first operation, in which healthy ovaries and tubes were removed for dysmenorrhea. In 1883 Lawson Tait established another record by operating successfully in a case of ruptured tubal pregnancy. But the conservative spirits in the medical profession twenty-five years ago opposed the performance of these operations, although they admitted the justifiability of ovariectomy; just as their predecessors of a generation previously had opposed the performance of ovariectomy, they said that fibroids and inflammatory conditions of the tubes did not endanger life, and that, consequently, it was not justifiable to operate for the relief of these conditions. Their opposition appeared, at the time, to be justified by the high rate of mortality, which then ranged from 20 to 30 per cent., whilst the mortality of ovariectomy had become reduced to from 10 to 15 per cent. But, happily for the race, there were



surgeons who had the courage to persevere, believing that the mortality of these operations could be brought down, even as had happened with ovariectomy.

Thus the field of abdominal surgery became further extended; to enumerate only a few instances, we may mention the surgery of the appendix and gall-bladder, intestinal surgery, the operative treatment of gun-shot wounds of the abdomen, and operations for intestinal obstruction. Even the field of obstetrics was encroached upon; for while obstetricians were discussing the relative value of craniotomy and induction of labour in cases of contracted pelvis and other forms of obstructed labour, the advance of abdominal surgery made Cæsarean section a safe and satisfactory alternative procedure. At the present time the destruction of a living child, on the ground that there is an obstacle to its birth in nature's appointed way, is viewed with increasing repugnance; and we may look forward confidently to the time when the performance of craniotomy on a living child will be considered, save in very exceptional circumstances, as a relic of barbarism, stamping its perpetrator as an ignorant bungler.

■ There is no doubt that, while the mortality of abdominal operations remained high, the scope of abdominal surgery was limited in proportion. It is only desperate cases that admit of desperate remedies, and as long as the risk of operation was greater than the risk of leaving matters alone, it was wise and practical advice to recommend patients to endure their sufferings with Christian resignation rather than face the risks of surgery; and patients would have been justified, when operation was advised, in replying in the words of King David, "Let me fall into the hands of God, rather than into the hands of men."

We now come to the consideration of what has happened in the last twenty-five years, and therewith to the more special subject of these remarks, which is the phenomenal extension of the scope of operations, not for the saving of life alone, but for the relief of suffering.

To illustrate how the field of operations has extended in inverse ratio to the rate of mortality, I cannot give you a more graphic picture than is presented in the records of the Chelsea Hospital for Women. I have investigated the records of all the abdominal operations performed at this hospital during the twenty-five years from 1886 to 1910; and grouping them in periods of five years each, we find the results as follows:

Years.	No. of Abdominal Operations.	No. of Deaths.	Percentage Mortality.
1886—1890.....	126	27	21.4
1891—1895.....	206	35	17.0
1896—1900.....	879	50	5.6
1901—1905.....	1,493	63	4.2
1906—1910.....	1,880	54	2.8

Thus, while fifteen times as many operations were performed in the last five years as compared with the first five years, the percentage mortality was eight times less.

By way of further illustration, I will take two individual classes of operation, one for the removal of the tubes and ovaries for inflammatory disease, and the other, the removal of the uterus for fibroids. I have chosen these two, because, while these operations are performed in a certain proportion of cases for the direct saving of life, their purpose is even more the relief of suffering and of chronic invalidism. The records of the Chelsea Hospital for Women, taken in the same way as before, are as follows:

#### OPERATIONS FOR TUBAL DISEASE

Years.	No. of Operations.	No. of Deaths.	Percentage Mortality.
1886—1890.....	12	4	33.3
1891—1895.....	22	3	13.6
1896—1900.....	198	7	3.5
1901—1905.....	302	10	3.3
1906—1910.....	363	5	1.3

#### HYSTERECTOMY FOR FIBROIDS OF THE UTERUS

Years.	No. of Operations.	No. of Deaths.	Percentage Mortality.
1886—1890.....	14	5	35.7
1891—1895.....	12	5	41.6
1896—1900.....	150	16	10.6
1901—1905.....	345	18	5.2
1906—1910.....	487	9	1.8

These figures show that, for tubal disease, the number of operations was thirty times greater in the last five years, compared with the first five; and the percentage mortality was twenty-six times less. In the case of hysterectomy for fibroids, the number of operations was thirty-five times greater and the mortality twenty times less.

I doubt if the whole range of surgery could show any other

two operations that presented such an extension of scope and such a rapidly diminishing mortality within a space of twenty-five years. Surgery has long held an honoured place as the saviour of those doomed otherwise to die: the work of the last quarter of a century has given her an equally just and an even wider claim to be regarded as the restorer of those who are otherwise sentenced to what many feel to be worse than death, and that is, chronic invalidism and disablement.

A remarkable feature of this transition has been the corresponding change in the attitude of the general public towards surgical intervention. Formerly, an operation was regarded as a necessarily desperate remedy involving a perilous descent into the valley of the shadow of death; and it was only the power of a Christian faith or a stoical fatalism that enabled them, as Milton was taught by his Heavenly Muse

"to venture down  
The deep descent, and up to re-ascend  
Though hard and rare."

The operating theatre presented itself to the popular mind as a chamber of execution, over which hung the sign of the dripping blade, while about it lingered the echoes of the last sighs of departing souls. Now this same theatre has assumed, rather, the character of a temple of healing, with the whilom executioner transfigured into the High Priest. That which was a River of Styx, dark and cold, is now a Pool of Bethesda; and the ill-advised and taciturn Charon has been metamorphosed into the angel that troubles the pool as a signal of healing.

This change in the attitude of the public towards surgical operations is not limited to any one class; we find that the intelligent and highly-educated among our patients have a considerable knowledge of what is involved in various operative procedures, and of the attendant risks and after-results; and, because they are well-informed, they exhibit a well-reasoned confidence in submitting to operative treatment. On the other hand, the patients that form the greatest proportion of our hospital cases have but little knowledge of what is implied by operation, beyond the fact that they are sent to sleep and something is done; but their readiness to accept an operation as the proper treatment for them is equally great; all they ask is the assurance that it is for their good and that they will feel nothing; and we find that their confidence is born of their experience of what such treatment has done for their friends.

There is no doubt that implicit confidence on the part of our

patients imposes upon us an added burden of responsibility in deciding what advice we are to give them; for, if their confidence is small, they will probably seek and obtain several opinions, and then make their own choice; but if their confidence is great, they will accept our opinion without question and act upon it without demur. But when the stage of advice is passed and that of action is entered upon, this confidence is of the greatest value to us, because the success of our operative work is immeasurably assisted by the trustful coöperation of our patients. This is true of those conditions involving questions of life and death, where it is our duty to say, "You must undergo an operation in order that your life may be saved," and it is equally true of those conditions where an operation is a matter of choice rather than of necessity, and where our formula will rather be this, "You will be well-advised to undergo an operation in order that your health may be restored." In my own practice, the distinction that I adopt is that I *urge* an operation of necessity, and if the patient appears unwilling I use all my powers of persuasion; but I *advise* an operation of election, and after explaining the pros and cons I leave the choice to the patient.

I have dwelt at some length on this question of the attitude of our patients, because it is a most important factor in the consideration of operations for the restoring of health, as distinguished from operations for the saving of life.

Let me now say a few words about some of those conditions, in the department of gynæcology, whose treatment by surgical means has been rendered possible by the fall in the death-rate of abdominal operations.

We may begin with uterine displacements. These are conditions that never prove fatal, and therefore we could not advise for their relief any operative treatment that was attended by an appreciable mortality. And so it was only when the mortality of abdominal operations generally was showing a marked decline that the surgical treatment of displacements came into vogue. It is interesting to note that the first abdominal operation for retroversion was an extra-peritoneal one, namely the Alexander-Adams operation; at that time the peritoneal cavity was still a kind of "*noli me tangere*," and every time it was opened there was a threat of septicæmia. Modern asepsis has robbed cœliotomy of its terrors; we have learnt the ways of the peritoneal cavity, and ceased to fear it. We now know that if we can leave the vulnerable diaphragmatic area alone, and avoid undue handling of the bowel, and refrain from introducing into the peritoneal cavity irritant chemical

antiseptics, the peritoneum is a tolerant structure well capable of looking after its own interests.

It was not long, therefore, before intra-peritoneal operations were introduced for the treatment of displacements, most of them originating on this side of the Atlantic. We had ventro-fixation and ventro-suspension of the uterus, with their modifications, and the various procedures for the intra-peritoneal shortening of the round ligaments. It is not necessary in this place to discuss the merits and demerits of these different operations; the one chiefly practised at the Chelsea Hospital for Women has been what we call hysteropexy, and in the twenty years, from 1891 to 1910, this operation was performed in five hundred and eighty-four cases.

The value of these operations is two-fold; in the first place, many patients are cured who cannot be relieved by other means, for example, cases of adherent retroversion and some cases of prolapse and procidentia. In the second place, patients can be saved from years of pessary treatment. I have before now defined pessaries as a necessary evil, that is, they are necessary sometimes, but evil always; and I have found no reason to alter this definition. It would be possible to draw up a serious indictment of pessaries: the unpleasantness of frequent examinations; the drawback of being chronically under the doctor's hands; the discomforts of irritating discharges and their attendant douchings; the risk of serious ulcerations into the bladder and rectum, of septic infection, and of the development of carcinoma as the result of retained pessaries, examples of which I have seen. If, by means of a safe operation, patients can be saved from all this, and if they desire such relief, surely they are entitled to have it. The radical cure of hernia is considered justifiable, to obviate the discomfort of constantly wearing a truss; why not then the radical cure of a uterine displacement, to obviate the necessity for the more obnoxious pessary? Well, the progress of abdominal surgery has opened up this field of relief to women and it has resulted in a wide relief of suffering and emancipation from disablement.

Passing on to the subject of inflammatory disease of the uterine appendages, we have to do with a somewhat graver condition, because, in a certain proportion of these cases, the patient is seriously ill, and we are called upon to operate in order to save life; and with the remainder, which forms the great majority, it is not a matter merely of obviating discomfort, but it is a question of saving women from prolonged illness, constant suffering, more or less complete invalidism and disablement. Some of these women, in



the poorest classes, are the bread-winners, and for them disablement is a worse evil than death.

Now, as long as the operative mortality was high, these patients could not be advised to undergo surgical treatment; and up to twenty years ago the mortality ranged from 20 to 30 per cent. It is true that Lawson Tait, as far back as thirty years ago (or, to be precise, in 1883), was able to record sixty-two cases without a death; and his results justified him in taking up a position far in advance of the current medical opinion of his time, and in saying "we could not stop short of dealing with matters that affect life only. Hydro-salpinx was a frequent cause of the most intense suffering and therefore he would, and did, remove it by surgical operation without hesitation." By degrees, as the figures of the Chelsea Hospital for Women show, the mortality became lower and lower, the figures for five successive quinquennial periods being, 33·3, 13·6, 3·5, and 1·3. It was not, however, on the ground of mortality alone, that these operations met with opposition in certain professional quarters; it was objected that, after these operations, patients remained chronic invalids, that they were unsexed and rendered unfit for wifehood, that they became, at the best, hysterics; and at the worst, lunatics. These objections were chiefly theoretical; and two years ago I was able to show, from a detailed investigation of the after-results of these operations, based on two hundred cases in which both ovaries were removed, that 70 per cent. of the patients regained perfect health and vigour and retained their sex-instincts; that the legends of women developing bass voices and growing beards were pure romance; and that there was no more tendency to insanity after double ovariectomy than there was after any other abdominal operation.

Now, what happens to patients suffering from chronic pelvic inflammation who are not treated by surgical means? Here and there we may find a case where symptoms subside and health is more or less completely regained; but this is a rare event. Many of these patients swell the ranks of those who are unjustly described as hysterical and neurotic. How often it has happened to me to have a patient sent up with a letter saying that she exhibited marked neurotic tendencies; and on examination some chronic pelvic disease has been discovered. These cases have constituted in the past a great reproach to the medical profession; such patients often suffer intermittently; they are seldom acutely ill, but they are never completely well; and because there is not much to show for their sufferings, and because, on occasion, they are able to make an effort

to appear as other women, they have been treated as neurotics and almost as malingerers; they have been drenched with bromides and valerian; they have been sent from spa to spa and soaked in brine-baths and mud-baths; they have been driven to seek relief in alcohol, morphia, or cocaine; or they have found a doubtful haven among the faith-healers and the Christian Scientists. I contend that we have no right to label any woman as neurotic, unless we can be certain that she has no organic disease; and even then we shall be wiser if we suspend our judgement.

Think of the amount of suffering saved, the workers that have been restored to the position of earning their livelihood, the relief to the community in the conversion of dependent invalids into sound and useful members of the body corporate; think of all this amount of good done as represented by the eight hundred and forty-one women who have been cured of diseased appendages in the last fifteen years at the Chelsea Hospital for Women. Then add to these the thousands of women similarly cured in other institutions all over the civilized world, and you will gain some idea of the good that has resulted from the decreased mortality of abdominal operations.

We come, thirdly and lastly, to the subject of fibroid tumours of the uterus. Here we have a condition more inherently dangerous than the other two, leading more often to a directly fatal result; and, short of a fatal issue, causing prolonged suffering and disablement. Here, again, we have a condition in which the operative death-rate must exert a marked influence on the advice that we give to our patients. Twenty years ago this operative death-rate was from 20 to 40 per cent.; and it is evident that it was only in cases where a fatal result was threatened that so dangerous an operation could be recommended. In the much larger majority of cases, there was no question of life being at stake, the reason for operation would be only the relief of suffering, and it is seldom that patients yearn for death or are willing to incur a very great risk, merely to be relieved of suffering. It is better, after all, to live as an invalid than to die cured. Now, when a patient with fibroids has to be told that the resources of medicine are exhausted and that the succour of surgery is more cruel than kind, it is a great comfort to be able to hold out some kind of hope, however unsubstantial; and so a fairy tale was built up and decorated to represent a scientific theory, to the effect that the menopause was the natural cure for fibroids. And patients were told, in all seriousness and good faith, "You must wait for the change of life, and then these tumours will

shrink and disappear, and you will get well." And the patients went on patiently draining their life-blood away, carrying enormous tumours that prevented them from getting about, hoping against hope that the delayed menopause would arrive, like some millennium, to give them peace. Some of them survived the worst troubles and escaped with their lives, a few of them regaining a measure of health, and the remainder remaining more or less permanent invalids. Others found that the menopause, when it came, came not to bless but to curse, bringing in its train degenerative changes, infection, sepsis, and death. Now I do not know what is the state of current medical opinion in progressive Canada; but I can tell you that in some parts of the Old Country we find a tragic thing, and it is this: That while the operative conditions have revolutionized the death rate of hysterectomy, causing a drop from 30 to 2 per cent., the hoary myth of the menopause is found to survive, even in high places, and patients are still condemned to years of suffering who might be quickly and safely cured. Look once more at the record of hysterectomies for fibroids at the Chelsea Hospital for Women; observe that in the last five years under consideration four hundred and eighty-seven operations were performed, with a mortality in all cases—serious as well as simple—of 1·8 per cent.; and I think that you will agree that I am justified in the contention that all fibroids should be operated upon (unless some weighty reason to the contrary can be shown) in the early stages, as soon as symptoms arise, and without waiting for the development of grave complications; and that, whereas, in the early days hysterectomy had to be reserved for cases in which it was required for the saving of life, the progress of abdominal surgery has brought it within the scope of operations that are justifiably performed for the relief of suffering and for the restoration of health.

In bringing these somewhat fragmentary remarks to a close, it may be well to guard against one possible misconception. Let me then state explicitly that the fact that an operation is safe is not, in my opinion, a sufficient reason for operating, if a cure can be obtained by other methods. I have no sympathy with the attitude of mind of Tennyson's imaginary surgical enthusiast, described in the lines—

"indeed, it was said of him  
He was happier using the knife than trying to save the limb."

On the contrary, I am not ashamed to admit that I have a feeling of reverence for the human body; and that, in my opinion, the

only sanction that can be accorded to surgical interference is that which is derived from the conviction that life, health, or comfort must otherwise be sacrificed. Having made this surgical profession of faith, I feel bound to state my belief that, on the other hand, we are not justified in refusing surgical relief when health and usefulness are at stake, any more than we should be entitled to withhold the aid of surgery when life is threatened—provided always that the ratio of the operative risk to the risk of non-interference be accorded its proper weight and consideration. In other words, while the grave issues of life and death justify great risks, the lesser issues of health and infirmity warrant only slight risks. It has been my object to show that the development of abdominal surgery and the extension of its scope have enabled us to realize the harmonious adjustment of this ratio, and to place the resources of our surgical art, with ever lessening risk, at the disposal of an ever-widening circle of suffering humanity.

## TYPHOID PLEURISY

BY F. G. FINLEY, M.D.

THE occurrence of pleurisy in the course of typhoid has long been recognized, but it is only since the discovery of Eberth's bacillus that it has been possible to classify the cases from an ætiological standpoint. There are now on record a considerable number of cases in which the typhoid bacillus has been found in pure culture, described mostly in French literature.

The following paper is based on a study of the literature of the subject and an analysis of nineteen cases which have occurred at the Montreal General Hospital in twenty-one hundred cases of typhoid treated from 1897 to June, 1912.

The following cases came under observation recently.

CASE 1. TYPHOID FEVER. Chronic endocarditis (aortic and mitral). Pleurisy, with typhoid bacilli. Phlebitis. Male, aged twenty-four, admitted to hospital December 24th, 1911, for fever, pain all over, and cough.

He had acute articular rheumatism seven years ago, and since then he has suffered from dyspnoea and weakness on exertion. On December 19th, he felt feverish and chilly.

PRESENT CONDITION. He is well nourished, skin moist, a few faint red spots, somewhat like rose spots, on the lower chest. Temperature,  $101.2^{\circ}$  to  $104^{\circ}$ .

The pulse is collapsing, rather large, and capillary pulsation is present. The apex is in the nipple line and there is a systolic murmur at the apex and a to and fro murmur at the base of the heart. There is cough, with a small quantity of muco-purulent sputum, slightly blood tinged, no abnormal physical signs.

The spleen is not palpable, but its area of dulness extends to the costal border. The abdomen is otherwise normal.

December 27th. Widal positive, 1—80.

January 7th. The case has been running a moderately severe course. Numerous rose spots, epistaxis, diarrhoea, and temperatures of  $101^{\circ}$  to  $104.8^{\circ}$ , gradually falling. To-day he complains of severe pain in the right side of the chest. Temperature rose to  $104.8^{\circ}$  in the evening.

January 8th. Pain in chest very severe with dyspnoea and



dilatation of alæ nasi. There is dulness in the lower axilla and behind, from the spine of the scapula down, with feeble breathing over the dull area and rigidity of the abdomen below the right costal border.

January 9th. A coarse pleural friction on right side with coarse crepitation behind.

January 12th. 20 c.c. of sero-fibrinous fluid was obtained from the pleura, in which a pure culture of bacillus typhosus was obtained by Dr. Rhea. Friction is still present. Dulness as before, with feeble breathing and diminished fremitus.

January 16th. Pain at back of left knee with tenderness extending down the leg, right calf 27½ cm., left 27 cm. Temperature 100.2°. The friction has disappeared. Subcrepitant rales present over lower part of dull area of lung behind, absence of vocal resonance and fremitus. No cough or sputum.

January 19th. Pain in right leg. Temperature rose 1° yesterday, 100.8°. Tenderness and induration of right calf and along the line of the internal saphenous vein into Hunter's canal.

January 26th. Fine crepitation over dull area of lung from spine down, absence of vocal resonance and fremitus.

February 20th. Signs over lung as before, but with only a few fine crackles.

March 2nd. Discharged well.

In this case pleurisy developed on the twentieth day, proved by bacteriological examination to contain a pure culture of bacillus typhosus, and evidence of a mild phlebitis in the left leg on the twenty-ninth and in the right leg on the thirty-second day of the disease. Crepitation was very persistent, suggesting an underlying lesion in the lung. Galliard has directed attention to the importance of infarction as the origin of pleurisy in typhoid. From the later date of the phlebitis, it seems improbable that an embolic infarct was derived from this source. The frequency of pulmonary infarcts in chronic valvular lesions is generally recognized, and in this case it is possible that the cardiac affection was responsible for a pulmonary embolus, derived from one of the right cardiac cavities.

CASE 2. TYPHOID FEVER. Acute right-sided pleurisy, developing on the eleventh day. Bacillus typhosus in one of three cultures in pleural fluids, also staphylococci. Chill, high temperature, and rusty sputum on the fourteenth day.

MED. CASE No. 7, 1912. Male, aged thirty-five, iron-moulder, was admitted to hospital on January 2nd, 1912, with headache and aching in the bones. He had suffered for twelve days with backache, headache, chills, and fever.

**PRESENT CONDITION.** On the day following admission, the temperature ranges between  $99^{\circ}8'$  and  $102^{\circ}4'$ . The pulse—72. A few rose spots are present on the abdomen, the spleen is enlarged on percussion, but is not palpable. The heart and lungs are normal. A blood culture proved negative.

January 3rd. White blood count—4,000. Negative Ehrlich diazo reaction.

January 11th. Pain in right side, but not severe.

January 12th. Severe pain in right side. A pleural friction is present in the right lower axilla. Dulness from the spine of scapula to the base behind, the breath sounds very feeble, subcrepitant rales are present over the base, and absence of vocal resonance and fremitus over the dull area. The temperature since admission has varied from  $98^{\circ}2'$  to  $102^{\circ}4'$ . Widal positive.

January 15th. He had a rigour last night, the temperature rising to  $105^{\circ}$ . He complains of severe, catching pain. There is some viscid, dark red, blood-coloured sputum, respirations 32, with dilatation of alae, pulse 112. Signs in chest as before. White blood count—7,800.

January 16th. Red viscid sputum continued. Signs of fluid in right pleura continue, with crepitation at both bases. Respiration, 28. Pulse, 108. Maximum temperature,  $104^{\circ}4'$ .

January 19th. Pleural friction continues, with a large quantity of frothy, rusty brown sputum. Fluid aspirated on 17th was sero-fibrinous. Bacteriological examination showed a moderate growth of staphylococcus.

January 23rd. *Bacillus typhosus* present in pleural fluid. Defective expansion on right side, dulness from spine down, bronchial breathing, bronchophony, ægophony, and a few crepitations.

January 29th. No growth from pleural fluid.

January 31st. The temperature fell to normal. Signs in chest as before, with the exception of crepitation, which has disappeared.

March 3rd. Discharged well. Defective expansion, slight dulness and feeble breathing, with normal resonance and fremitus at the right base.

This case ran a mild course of typhoid until the development of pleurisy, which occurred on the eleventh day. Three days later there was a severe chill, followed by rusty sputa. The physical signs in the left lung were somewhat masked by the pleural effusion, but it was noticed that crepitation persisted almost throughout the

illness, and longer than is usually found in pleurisy. No importance can be attached to the bronchial breathing and bronchophony, as these signs are so frequent in pleurisy. The rusty sputum was, however, clear evidence of a pulmonary lesion, either an infarct or a broncho-pneumonia. In point of time the pleural symptoms developed first. The pure culture of bacillus typhosus is a good proof of its typhoid character.

The question as to whether the pleurisy was secondary to an infarct in the lung cannot be answered with certainty. Clinically the pulmonary symptoms developed after the pleurisy, but this fact does not exclude the possibility of an earlier infarction as the cause of the pleuritic effusion.

The incidence of pleurisy varies considerably in different epidemics of typhoid and in different localities. Most writers, however, agree that it is one of the rarer complications. In twenty-one hundred cases collected from the Montreal General Hospital records, it occurred nineteen times. In this series, however, pleurisies occurring in well marked pneumonias or found at autopsy as a complication of such, have been excluded. J. McCrae, in an analysis of seven hundred and seventeen cases at the same hospital, found fifteen cases, or 2 per cent., whilst T. McCrae, at the Johns Hopkins Hospital, states that there were 2.1 per cent. of pleurisies in his cases of typhoid. Lesné and Ravaut found pleurisies with pure cultures of the bacilli seven times in ten hundred and fifty-five typhoids, or .66 per cent. Other writers have reported much higher numbers, Heymann giving 14 per cent., and Barach, in five hundred cases, four effusions and sixteen plastic cases, of which three were associated with pneumonia.

Although pleurisy usually develops towards the middle or latter part of the febrile process, yet it may arise at the onset, or after defervescence. In the nineteen cases, the average period of onset was the twenty-fifth day. The two earliest cases began on the first and fourth day, and the two latest on the thirty-ninth and ninety-sixth days.

Typhoid setting in with well marked pleuritic symptoms, termed by French writers "pleuro-typhoids," are amongst the most interesting varieties of the disease, as the primary disease may, at least at the onset, be entirely overlooked. Of the two cases in the series, one was admitted a month after the onset of pain in the side, and presented well marked signs of typhoid with a pleuritic effusion. Even long after defervescence pleurisy may arise. Siredey found the typhoid bacillus after three weeks of normal temperature, a

fact which is comparable to the occasional late development of other complications, such as phlebitis or bone disease.

The symptoms do not differ materially from ordinary pleurisy. In our cases pain was usually present early, and was sometimes of an excessively severe character. The temperature, pulse, and respiration often showed a slight increase, and fluid was commonly found in moderate amount within a couple of days. In addition to the usual signs of fluid, a friction was heard in most instances. One feature frequently noted was the persistence of crepitant or subcrepitant rales during the period of effusion, a sign suggesting a simultaneous lesion of the lung or bronchial tubes. A point of some practical importance is the occurrence of pain referred to the abdomen and often associated with rigidity of the abdominal wall. In some instances these symptoms were so marked as to suggest perforation of the bowel.

The character of the fluid may be sero-fibrinous, hæmorrhagic, or purulent. Owing to the small amount of fluid present, puncture was only carried out in a minority of cases. Five were sero-fibrinous, two hæmorrhagic, and two purulent. The ratio of sero-fibrinous cases would doubtless have been increased had exploratory puncture been uniformly carried out. Remlinger found six serous, one hæmorrhagic, and eight purulent cases in his series, and states that the later the pleurisy appears the more likely is it to be purulent, the ordinary pus-producing organisms being then more frequently present.

Of the purulent cases, one began as a sero-fibrinous exudate, becoming purulent after five tapplings. A good recovery was made after thoracotomy. In the other, the fluid was at first turbid, and subsequently could not be located. The temperature, however, continued elevated, and on the fiftieth day of the illness pus was expectorated. The temperature fell to normal on the same day, and the patient recovered completely. Although recovery has been recorded after repeated aspiration, it is doubtless safer to resort early to operative measures.

There are on record a considerable number of cases in which pure cultures of Eberth's bacillus have been recovered from the pleural fluid. The presence of the bacillus in pure culture is fairly conclusive evidence of the typhoid character of such an effusion. It may be objected that pleurisy resulting from tuberculosis may arise in the course of typhoid, and that the fluid might easily become infected with typhoid bacilli. There are, indeed, on record two remarkable cases, one published by Charrin and Roger, and the other

by Kelsch, in which typhoid bacilli were obtained in the pleural fluid and in which the autopsies showed tuberculous lesions in the lungs, without the intestinal lesions of typhoid.

Achard endeavoured to exclude tuberculosis by injecting a guinea pig with the pleuritic fluid from which he obtained typhoid bacilli. As the animal remained free from tubercular changes, he considers the case to be due to the bacillus of Eberth. Remlinger found the typhoid bacillus in pure culture in seven cases and the staphylococcus in one only. He therefore regards the great majority of pleurisies in the course of typhoid as being of specific origin.

In the only fatal case in our series, Case 3, the proof of the typhoid origin is complete, and in none of the nineteen cases was there any clinical evidence of tuberculosis.

Agglutination is usually produced by the pleural fluid, although it is usually much weaker in this respect than the blood. Achard, however, records a case in which the reverse was noticed, the blood agglutination 1—10, and the pleural fluid 1—100. This feature, and the bactericidal character of the fluid, sometimes prevents the bacilli from being recovered in cultures. Thus, in Case 2, they were only found after two punctures, whilst in several of the cases collected by Remlinger the fluid became sterile in the later stages.

Typhoid bacilli occur in all types of effusion, and even in purulent cases may occur alone, as was first pointed out in a case recorded by Weintraud in 1890.

The leucocytes have not often been counted, but they usually present a rather low count. In Case 2 there were only 7,800 after the onset of pleurisy, as compared with 4,000 before.

On the cytology in the effusions there is some discrepancy in the statements of different writers. Pfeiffer found a great predominance of small mononuclear cells and only a few polynuclear, and most writers confirm this statement. Ravaut and, later, Widal lay stress on the presence of large endothelial cells.

The course of typhoid pleurisy is almost invariably benign, the fluid usually remains small in amount and is absorbed in a period of from two days to several weeks, leaving but little trace of pleural thickening and adhesions.

The only fatal case of typhoid pleurisy in the series was the following:

CASE 3. Typhoid fever and hæmorrhagic pleurisy due to bacillus typhosus. Autopsy. (This case is recorded by McNaughton and Rhea.) Male, aged twenty-seven, admitted October 3rd, 1910, with sore throat, cough, and loss of appetite.



The patient had high temperatures, delirium, rose spots, bronchitis with muco-purulent sputa, and feeble heart action. He died of toxæmia on the thirty-fourth day. No evidence of pleurisy was observed during life. Widal positive.

**AUTOPSY.** The left pleura contains 375 c.c. of bright red fluid. The pleura is bright red and is covered in places with a fibrinous exudate. The lungs present a number of raised, red, firm areas, from 3 to 5 mm. in diameter. At the lower anterior margin of the lower left lobe there is a wedge-shaped, elevated, dark red, very firm area, extending into the underlying lung tissue. About the periphery of this area is a narrow, bright red zone. Spleen, 200 gm. Moderately firm. Typhoid ulcers in the intestine.

Anatomical diagnosis: Typhoid fever. Acute hæmorrhagic pleuritis (left). Infarct of the lung (left). Broncho-pneumonia. Hypertrophy of spleen and mesenteric glands.

Cultures from the left pleural cavity and the heart's blood showed a pure culture of bacillus typhosus, agglutinating with a known typhoid serum in one hour in 1 to 40 and 1 to 80 dilution.

**Pathogenesis.** With one exception, reported as Case 3, the pleurisies occurring in the post-mortem room in cases of typhoid were associated with severe pulmonary lesions, especially lobar pneumonia or abscess of the lung; they were mostly plastic and played a very subordinate part in the clinical and pathological characters of the cases.

Galliard has insisted on the importance of an infarct of the lung preceding and causing pleurisy, and records two clinical cases. In Case 3 an infarct case was present on the same side as the effusion, and may be regarded as the primary focus for the pleural infection.

The persistence of crepitation during the course of the malady and the blood-stained sputum, which is often present, also suggest an underlying pulmonary lesion in many of the cases. Bronchitis, with pulmonary congestion, is mentioned by Normandin as a probable source of origin in some cases, but this complication is so common that it is difficult to estimate its influence.

An unusual origin is recorded in one of Remlinger's cases in which an empyema originated in a large abscess of the right lobe of the liver.

Both Remlinger and Labiche notice the preponderance of these pleurisies on the left side, the former writer finding eleven left, five right, and three instances bilateral. Labiche suggests in explanation that the spleen is the focus of infection—an explanation

which has little to recommend it. In our cases, the figures are reversed, eleven right- and four left-sided pleurisies being noted.

The frequency of phlebitis was rather striking in our cases. In seventeen instances, six suffered from this complication and eleven were free. As a rule, the pleurisy developed first, as in Case 1. It does not seem probable, therefore, that an embolus from the vein was the cause of pulmonary infarction and pleurisy.

CONCLUSIONS. 1. We may conclude that pleurisy occurs in from one to two per cent. of cases of typhoid, although in some epidemics a much larger proportion may occur.

2. That most cases of pleurisy in typhoid are due to the typhoid bacillus, and that there is a preceding lesion of the lung in many cases.

3. Typhoid pleurisy is usually a benign condition, and does not materially add to the danger of the disease.

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## DEEP INJECTIONS OF ALCOHOL FOR TRIFACIAL NEURALGIA—ONE HUNDRED AND TWO CASES

BY D. A. SHIRRES, M.D.

AT the Canadian Medical Association meeting in Ottawa, six years ago, I read before you a paper on the technique and results of deep injections of alcohol for the cure of trifacial neuralgia, and reported seven cases that had been operated upon. Since then I have injected ninety-five cases, over seventy of which were done in the last three years. The results have been very satisfactory, and in every case treatment succeeded in giving immediate relief from pain. I have been very fortunate in that no serious or permanent complications have resulted from the operation.

My method has been the same throughout, Levy and Baudouin's. As far as I have been able to ascertain reports from patients operated upon, successful results have been obtained in the relief of pain, up to the present time, in about two-thirds of the cases, but it is hard to estimate the exact percentage of cures, as it is impossible to keep in touch with all of them. Of the twenty that I treated up to five years ago, nine that I heard from are still free from pain. The few cases that returned to be reinjected were largely those that had not gone through the full course of treatment. The pain disappears, in most cases, after four injections, but I make it a point, if possible, to give two more, and also try to have the patient remain on for ten days after the last injection.

About ninety per cent. of my patients come from a distance, and it is very hard to keep them under observation as long as I would wish, for they are anxious to return home as soon as they are free from pain. Speaking generally, I feel that in the large majority of cases, where treatment is thoroughly carried out, I can promise the patient relief from neuralgia for three or four years, and even longer. I have never had a case in which the pain returned within a year, if the regular treatment was given.

In my experience, women are more liable to be affected with the disease than men, and the left fifth is more often involved than the right. The second branch is more often affected than the third,

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and in no case have I had the ophthalmic division involved alone. In but a few cases was the ophthalmic division affected to the same extent as the other branches, and then injection of the two lower divisions gave relief from pain in it. At first I injected only the division where pain was complained of, but for the last three years I have done both middle and inferior branches, having found that though pain is not complained of in a certain branch, yet irritation of it will sometimes produce, reflexly, pain in the other branch. In some of our cases we were able to demonstrate this by stimulating the inferior branch by electricity, whereupon pain was induced in the middle branch, and vice versa. Dr. Patrick describes this under the name of *dolor-genetic areas*.

Relief from pain is as readily obtained in cases of long standing, where the patient is advanced in years and the pain is severe, as in mild cases of short duration. Sex does not seem to have any influence on the prognosis.

Cases of typical *tic douloureux* are not hard to diagnose, but there are neurasthenic conditions which bear close resemblance to trifacial neuralgia, three or four cases of which have been sent to me for operation. If such cases be operated upon—and it has been done—the paresthesias resulting from the injection become a very irritating feature to the neurasthenic individual; in fact, he is worse off after the injection than before, and then the doctor receives a great deal of censure. In a case of trifacial neuralgia, on the other hand, the paresthesias following the injection cause little, if any, discomfort, perhaps because the patient is less sensitive to minor sensory disturbances than the normal individual.

It has been my practice, if possible, to have my patients operated upon in the hospital, and kept in bed for twenty-four hours after the operation. In quite a number of cases there was a slight rise in temperature, a degree or so, a few hours after the operation. I allow forty-eight hours to intervene between each injection, and in a very few cases only have I injected two branches at the one sitting. This was done where the patient wanted to leave soon, or in which repeated injections failed to bring about results quick enough. In the majority, six injections were sufficient, though some required eight, and a few as many as ten. In ninety-five per cent. of my cases no anæsthetic was used, and only in some of the very old or very nervous was it demanded.

In giving the injections I have never met with any bad results. This, I believe, is chiefly due to my refusal to operate upon cases where organic nervous disease, sinus trouble, tumour, migraine, simple

neuralgia, or disease of the teeth or bones was present, and by carefully excluding neurasthenic cases, which sometimes very closely resemble tic douloureux. Two cases that I saw in the city of Montreal, which had been operated upon, lost the sight of one eye and had paralysis of the seventh and eighth nerves. Both were incipient cases of locomotor ataxia. Quite a few cases of true tic douloureux have been injected by medical men, in which serious consequences followed the operation. It is unfortunate that cases of this kind are not reported, for it is well to know the bad, as well as the good, results of this method.

Before attempting to give the deep injection of alcohol, I carefully studied the anatomy and topography of the skull, and also injected a number of different cadavres with 2 c.c. of Loeffler's blue. In this way I was able to find out whether I had reached the nerve correctly with the needle. Only yesterday, before sitting down to write my paper, I injected two other cadavres with the Loeffler's blue, and found, as in my earlier experiments, that on opening the skull the Loeffler's blue had deeply stained the nerves at their exit from the skull. The dye also permeated both foramina, colouring the dura and brain in the middle fossa. In one or two cases, some of the small arteries in the fissure of Sylvius were injected with the dye. In these experiments very little force was employed in emptying the syringe. If, therefore, the dye when injected at the exits is able to travel through these openings into the base of the brain, in all likelihood the alcohol in the ordinary injections enters the skull cavity. Thus, the diffuse headache, the rise in temperature, the involvement of some of the cranial nerves, the mild emotional shock, etc., that have been reported, could be readily accounted for. Dr. Dana reports, in some of his cases following the injection, that "a sort of psychosis is added to the neurosis and the operation does not seem to be of so much benefit."

**METHOD OF OPERATION.** I use a straight needle 12 cm. long and 1.75 mm. thick, with a stylet, the somewhat rounded edge of which is flush with the needle point when the stylet is pushed home. It is graduated in centimetres from the point up to five, so that the operator may, at all times, know just how deeply he has penetrated. The proximal end is fitted to receive the threadless nozzle of a syringe holding 2 c.c. or more. The solution used is, cocain hydrochlorate,  $\frac{1}{12}$  grain, alcohol, 80 per cent. solution, 1 drachm. The amount to be injected varies from 2 c.c. to  $2\frac{1}{2}$  c.c.; but 2 c.c. is the amount generally used. The solution should be made up fresh for each operation.



**TO INJECT THE SUPERIOR MAXILLARY NERVE.** A point of entrance is selected at the lower border of the zygoma 0.5 cm. behind a perpendicular let fall from the posterior edge of the orbital process of the malar bone. This edge is easily felt. The needle is directed straight in with an inclination upwards; that is, perpendicular to an antero-posterior line, but so inclined upwards that the point at the depth of 5 cm. shall be on a level with the lower end of the nasal bones or slightly lower than the posterior pole of the orbit. At this depth and angle, the point of the needle is supposed to engage the nerve as it emerges from the foramen into the pterygomaxillary fossa.

**INJECTION OF THE INFERIOR MAXILLARY NERVE.** The point of entrance is at the lower border of the zygoma 2.5 cm. in front of the anterior root of the zygoma, a descending process which forms part of the anterior wall of the auditory canal and the posterior limit of the glenoid fossa. The needle is directed somewhat backwards and slightly upwards, and at 4 cm. should reach the nerve.

In a large number of my cases, a hypodermic of morphia,  $\frac{1}{4}$  grain, is given half an hour before the operation. This permits of handling the patient for the preparation of cleaning up, etc. The point of entrance being selected, the skin and superficial tissue is cut with a knife, as I prefer to have the stylet in the needle during the process of its insertion. The act of pushing the needle back to the nerve should be done slowly, and obstacles that are met with, such as bony projections, etc., are easily made out from their depth and situation, and thus overcome. A thorough knowledge of the anatomical relations should be obtained before operating. In most cases, the moment the needle touches the nerve the patient complains of reflex pain over its area of distribution. The alcoholic solution should be injected slowly, and the first few minims that escape from the point of the needle cause a severe spasm. If this does not occur you are not in the neighbourhood of the nerve, replace the stylet and hunt about till you get the reflex pain; or try injecting a little more, and see what results are obtained. Having injected what you think is sufficient, taking a quarter of an hour to do so and using very little force, insert the stylet and draw the needle out half an inch; wait a few minutes and then draw it out further, taking about five minutes to withdraw the instrument. Then put a little collodion and cotton over the wound and keep the patient in a recumbent position for at least six hours. Usually a considerable amount of oedema and swelling follows the injection, and the more injections given the more oedema and swelling take

place; but it has always disappeared within a week or ten days, even in cases that have had nine to twelve injections.

Dr. Patrick lays stress upon the fact that if the nerve is injected properly, the area of its distribution is analgesic. This has not been my experience, for quite a number of patients that were completely relieved did not show this feature.

In cases that have refused the alcohol injection, of which there are only a few, I have tried alcohol cataphoresis. One that had previously undergone nearly every form of treatment in New York, was treated in this manner five years ago at the Montreal General Hospital. She has been free from pain ever since. Others were relieved for from three to six months. There were a few that did not respond at all, and the injection had to be carried out later.

I might mention here that some five years ago a case of persistent coccydynia, that had been treated in various ways unsuccessfully in the out-door of the Montreal General Hospital, was recommended to my clinic. Feeling that alcohol, being so valuable in tic douloureux, might answer well here, I gave three injections, and the patient has had no pain since. I have had two other cases, one of which has just finished treatment.

As the time is limited for reading this paper, I have refrained from going into details regarding the technique and anatomical structures of the parts in the field of operation. The shape of the head and face varies considerably in different individuals, therefore the details of operation must also vary. In this paper I simply wanted to give you a general idea of the method and results.

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THE fourteenth annual meeting of the American Proctologic Society was held at Atlantic City, June 3rd to June 4th. The president was Dr. John L. Yelks, of Memphis, Tenn. A number of interesting papers were read and several case reports were presented. The election of officers for the ensuing year resulted as follows: president, Dr. Louis J. Hirschman, of Detroit; vice-president, Dr. A. B. Graham, of Indianapolis; secretary-treasurer, Dr. Louis H. Adler, Jr., of Philadelphia. The next meeting of the society will take place at Minneapolis, Minnesota.

## THE ACTION OF DRUGS ON THE UTERUS

BY N. C. SHARPE, B.A., M.B.

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THE marked advance in our knowledge of the pharmacology of the uterus has led to a long series of experiments being carried out in this department, which were in part designed to control the teaching, and in part to serve as demonstrations for its students. The material thus gathered has served as the basis of the present paper. The action of drugs on the uterus must now be considered from our knowledge of the physiological properties of the uterine muscle. It must be the endeavour to put this clearly before our readers in order that the action of drugs may logically follow.

The uterus is continually undergoing slow rhythmic movements. As usually observed, these consist of contractions of the circular and longitudinal muscular layers. These contractions may be observed in the intact animal, and also in the excised organ when perfused—i.e., when an artificial blood consisting of an oxygenated saline is run through its vessels, or when the organ is placed in a bath of the same solution. The power to execute these movements, therefore, resides in the organ itself. Usually they are not great in excursion or in strength. They are increased at the menstrual period. Undue strength of these contractions probably accounts for the type of dysmenorrhœa often observed in nervous working-girls, in which there are sharp rhythmic pains.

The contractions change in character as pregnancy occurs. In the early stages, they seem more active; they become slower and less frequent as pregnancy advances, but increase in strength till, at full term, the true labour pains occur. After the expulsion of the foetus they are again not so marked, until the secondary pains expel the placenta. The movements continue during the period of involution, and, indeed, our observations confirm those of Cushny,<sup>1</sup> who states that they are more active then than before labour.

The problems connected with the nervous control of the uterus are as yet not completely decided. It receives fibres from the gangliated cord of the sympathetic. This supply arises from the

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roots between the last thoracic and the fifth lumbar—varying somewhat in different animals—and passes through the white rami communicantes to the ganglia, thence to the inferior mesenteric ganglion, and from there, via the hypogastric, to the uterus. Stimulation of these fibres causes contraction of the uterine arterioles, and relaxation followed by contraction of the uterine musculature in the non-pregnant cat, contraction in the pregnant cat and in the rabbit, whether pregnant or non-pregnant. The fibres pass to both circular and longitudinal coats. It is on these sympathetic endings that adrenalin and ergot act.

It also seems probable that the organ receives a nervous supply from the *nervi erigentes*, or sacral pelvic nerves, as well, as do the other organs of the pelvis, bladder, rectum, and genitals. Langley and Anderson<sup>2</sup> state that these sacral nerves, which arise from the second to fourth lumbar roots, send neither motor nor inhibitory fibres to the uterus, and that those observers who have reported results from the stimulation of them, have stimulated sympathetic nerves as well. Pilocarpine and atropine, which act elsewhere on sacral nerves, exhibit characteristic analogous actions on the uterus. In our experiments they have exercised this characteristic action on the excised organ, so that their action cannot, as is suggested by Dale and Laidlaw,<sup>3</sup> be due to their action on the adrenal gland, increasing or decreasing its characteristic secretion. Pilocarpine increases the rate and strength of the contractions when these are present, or causes them to appear if not already visible. Cushny<sup>4</sup> states that the characteristic effect of pilocarpine varies with the physiological state of the organ, and parallels that of hypogastric stimulation. Pilocarpine nearly always causes an increase in the tone of the uterus, and this effect is promptly neutralized by atropine.

The uterine nerves are undoubtedly connected with a centre in the lumbar region of the cord, and through it with the cerebrum. As is well known, emotions often markedly affect the uterine movements. The action of morphine and anaesthetics, when used to decrease the uterine movements, probably produce their effects through these centres. Drastic purgatives, and other irritants to the intestinal canal, probably produce their effects on the uterus reflexly through the lumbar centre, owing to the congestion that they set up. Langley and Anderson noted that, in animals with a bicornuate uterus, a stimulus applied to one horn not infrequently led to a contraction in the horn of the opposite side.

From the standpoint of therapeutics there are two properties of uterine muscle which are of fundamental importance, tone and contractility. When drugs are given for their action on the uterus,

the desire is to increase or decrease either one or both of these properties. Tone may best be defined as that state of partial contraction in which a muscle normally is, and depends, in the case of unstriated muscle, probably upon its chemical state. At all events, we know that the action of certain drugs which act upon it do change its length, and also the ease with which it can be stretched. After the uterine muscle has completed a contraction, the pressure of the contents within it is the important factor in causing the muscle to regain its original length; the greater this pressure the greater and quicker the relaxation. But the extent to which such a relaxation takes place, whether the pressure can, in other words, cause it to regain or surpass its previous length, depends upon the tone of the muscle. When the tone is low it is easy for the pressure to cause it to regain the length it had before the contraction began, or, if the tone has decreased, the same pressure will tend to stretch the muscle to an even greater extent. But with increase in tone a greater pressure than before will be needed to bring it to its original length. After the expulsion of the foetus the uterus should contract firmly, and its tone should rapidly increase, and, as the pressure within should be slight, but slight relaxation should occur. If, however, the tone be poor, the slight pressure exerted by the blood oozing from the placental site will be sufficient to bring about relaxation, and each step in relaxation will lead to increase in hæmorrhage.

The object in giving drugs before labour is complete, must be to increase the tone, so that the uterine wall remains closely applied to the child in its passage through the pelvis, and, at the same time, to increase the force and frequency of the uterine movements, so that the bag of waters may be firmly forced down on the os and bring about its dilatation. In the bicornuate uterus of animals the increase in tone becomes of even greater importance, as it tends to keep the walls of the tube closely applied to the foetus and prevents it kinking under the pressure of the abdominal muscles. After the delivery of the membranes and placenta, increase in tone becomes the most important requisite, in order to keep the walls of the cavity as closely applied as possible to each other.

In labour the dilatation of the neck is due to its passive relaxation, owing to the force exerted by the rhythmical contractions and the increase in tone of the upper part of the uterus pressing the bag of membranes upon it. Polaillon showed that when the area of the orifice is 1 sq. cm. the pressure on the membranes was 110 grammes, when completely dilated it was 95 sq. cm. and the pressure forcing the head down was estimated at about 10 kilogrammes (roughly 22 lbs.) at each contraction. Mathew Duncan has



estimated that the pressure necessary to cause rupture of the amnion, varies between 1·8 and 17 kilogrammes—4 to 37 lbs.

Schatz,<sup>5</sup> Polaillon<sup>6</sup> and Westermarck<sup>7</sup> have found that the constant tonic pressure exerted upon the uterine contents during delivery in any individual case, remains constant as long as no change takes place in the volume of the contents, but varies, in different cases, from 20 mm. to 70 mm. of mercury in different individuals—a variation of from 6 to 21 oz. per sq. in. The average, constant, uterine pressure is thus about 35 mm. of mercury per sq. cm., or about 10·5 oz. per sq. in. Polaillon finds that the whole pressure exerted upon the surface of the ovum—1400 sq. cm. or 200 sq. in.—is about 66 kilogrammes—145 lbs. During a uterine contraction, there is an additional average pressure of 46 mm. mercury per sq. cm.—13·8 oz. per sq. in.—or 88 kilogrammes—193 lbs.—on the whole surface of the ovum. The total pressure during a contraction, therefore, will be 154 kilogrammes, or 338 lbs., or an estimated work equivalent to raising nearly 22 lbs. to the height of one yard,—9 kilogrammemeters. Out of five hundred and eighty-seven estimations by Westermarck<sup>7</sup> on women at the period of delivery, the lowest pressure on the uterine contents noted was 20 mm., the highest 220 mm. These pressure values were, of course, greatly increased when the abdominal muscles and diaphragm took part in the pain. In this case, during the expulsive period, values averaging 400 mm., or four times that of the uterus alone, were brought into play. One cannot hope by the use of uterine drugs to change this, the greatest expulsive force.

The tracings shown have been taken by two methods, either the contractions of the muscles alone have been recorded by means of a lever system, or the intra-uterine pressure has been recorded as well by means of a rubber bag inserted into one of the foetal sacs. The animals, of course, were rendered completely unconscious previous to any operation being undertaken. In all cases, a rise in the curve shows an increase in contraction, a fall, relaxation. For example, in Tracing 1 there are shown three contractions previous to the injection of ergotoxine, subsequently there are very many. That they succeed one another more rapidly is evident; it is also apparent that the general level of the curve has risen; there has been an increase in tone which only gradually falls to its original level.

The drugs, whose action is supposed to be on sacral endings, such as pilocarpine, atropine, and physostigmine, play little part in therapeutics. The drugs, whose action is upon the sympathetic, hypogastric endings, are of great importance.

Adrenalin is pharmacologically, though not therapeutically,

one of the most important of this group. Although in cats it often causes a relaxation of the non-pregnant uterus, it always causes contraction in the pregnant animal; clinical experience seems to bear this out for man. Tracing 2 shows a typical adrenalin effect. It will be noted that the uterine contraction, though very marked, is of very brief duration, and is accompanied by no rise in tone. Indeed, in our experiments, a subsequent decrease in tone has been very common.

Ergot also acts on these sympathetic endings. The activity of ergot in its ordinary pharmaceutical preparations shows such marked variability,<sup>8</sup> that it is fortunate that during the last few years we have had isolated for us its active principles. Probably the most important is the water soluble principle para-hydroxy-phenylethylamine,—sold under the trade name of tyramine. The action of this body is indicated in Tracing 3, which shows a marked increase in rate and strength of uterine contraction, and also a marked rise in tone; a highly desirable result. This body, which was first studied by Barger and Dale,<sup>9</sup> seems to promise to become of some importance. The earlier isolated principle, the amorphous alkaloid, ergotoxine, also gives very marked results, consisting, in general, in both increase in contractility and a rise in tone. Tracing 4 is a fairly typical example. Large doses of this substance produce, however, a depression of the nerve endings, which in smaller doses it stimulates, and this makes it inadvisable to use it in repeated doses.

Pituitary extract acts also on these same endings, and in our experiments has almost invariably given us both a marked rise in tone and also an increase in the rhythmic movements. Tracing 5 is characteristic.

With these last three drugs we have always been able to produce some pharmacological effect, but have encountered the difficulty that we have not always been able to produce any given type of result. Before the birth of the child it is important for the clinician to bring about not only increase in contractility, but also some rise in tone, though the first is the more important in most cases; that is to say, to produce an effect similar to that shown in Tracing 1, and not merely a rise in tone such as is shown in Tracing 5. Post-partum, a rise in tone is much the more important, and Tracing 5 would illustrate a successful result. Unfortunately we are not able to foretell which result will be obtained from any given dose, and in consequence we consider those clinicians who refuse to use them before birth justified, though doubtless they may be of value in this stage. Post-partum, they are, we believe, of undoubted value.

Our experiments with hydrastine have yielded less certain

results than we have been able to obtain with the ergot preparations, or with pituitary. Quinine, the sovereign remedy in malaria, has been known to cause abortion, and not a few Italian physicians have recommended its use in obstetrics. Cushny<sup>1</sup> found in his experiments that small injections in animals usually produced a short series of contractions, but no increase in tone. He also adduced some evidence to show that its action is upon the muscle itself.

In our experiments, also, we have only seen increase in rate and strength of the contractions, and practically no effect on tone. The increase has in no case been very striking. Tracing 6 is a very typical one. In this tracing the upper line represents intra-uterine pressure, the large waves the change in length of longitudinal muscle.

Barium also acts on the uterine musculature directly. Its effect is chiefly on tone, the rhythmic movements being little effected by small doses, but being entirely obscured with large ones, owing to the very marked rise in tone.

We have practically no knowledge of drugs which are capable of decreasing uterine tone or contractility. In some of our experiments we have been able, apparently, to do this by the use of nitrites, in others we have been completely unsuccessful. The increase in tone brought about by pilocarpine can be relieved by atropine, and it is possible that this drug might be of service in some cases of dysmenorrhœa, when the pains are dull and persistent.

The central control, however, of the organ must not be forgotten. Alcohol seems to be completely without effect, even when given intravenously. Anæsthetics cause, undoubtedly, a relaxation and slowing, or even arrest, of uterine movements in some cases. The direct effect on the uterus seems to be slight, but their effect on the movements of abdominal muscles is often very marked. According to Kehrer,<sup>10</sup> morphine in small doses increases the uterine movements, while in very large doses they are somewhat depressed. It must not be forgotten that the absence of pain brought about by the exhibition of this drug, enables the patient to participate in the necessary abdominal movements with much greater success.

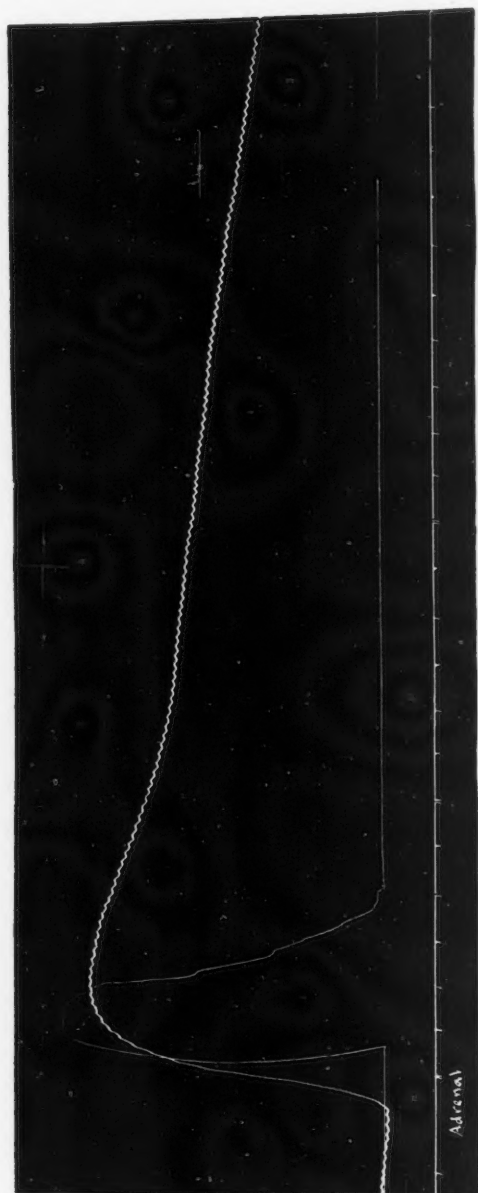
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TRACING 1.—Cat, pregnant, near full term. Ergotoxine, 1.3 mg., intravenously showing uterine contractions, blood pressure, and time intervals of 10 sec. Illustrating Dr. Sharpe's article: "The Action of Drugs on the Uterus."





TRACING 2.—Cat, intracerebral magnesium chloride, in shock, blood pressure 35 mm.Hg. 0.5 cc. 1-1000 adrenalin. Note single uterine contraction and slow fall of pressure. Illustrating Dr. Sharpe's article: "The Action of Drugs on the Uterus."







TRACING 3.—Pregnant Cat, Uterine Contractions. Tyramine, 5 mg. Illustrating Dr. Sharpe's article: "The Action of Drugs on the Uterus."





TRACING 4.—Illustrating Dr. Sharpe's article: "The Action of Drugs on the Uterus."





TRACING 5.—Pregnant Cat, Uterine and Blood Pressure Tracings. Pituitary Extract. Illustrating Dr. Sharpe's article:  
"The Action of Drugs on the Uterus."

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TRACING 6.—Pregnant Cat. Quinine, 10 mg. Illustrating Dr. Sharpe's article: "The Action of Drugs on the Uterus."



**A REPORT OF TWO CASES OF TYPHOID FEVER  
WHICH SHOW UNCOMMON LESIONS DUE  
TO THE BACILLUS TYPHOSUS**

**1. ACUTE PURULENT PERICARDITIS**

**2. ACUTE HÆMORRHAGIC PLEURITIS**

BY M. W. A. McNAUGHTON, M.D., AND LAWRENCE J. RHEA, M.D.

*From the Pathological Laboratory of the Montreal General Hospital*

**T**HE comparative rarity of acute lesions of the pericardium and pleuræ due to bacillus typhosus warrants the publication of the two following cases:

Acute pericarditis due to bacillus typhosus. Clinical history: The patient, a male, twenty-one years old, entered the Montreal General Hospital, November 1st, 1910, in the service of Dr. F. G. Finley, complaining of pain and swelling in both knees and ankles, and sore throat.

Personal history. Nine years ago he had influenza. Otherwise, he has always been in good health.

History of present illness. On October 1st, 1910, he had severe pains in his head and body, which continued for two days. His condition improved and he returned to work on October 8th, 1910. On October 22nd, pain developed in his legs and feet. This was of sufficient severity to confine him to bed, where he remained until admission, November 1st, 1910.

Condition on admission. Face is pale, skin dry, tongue coated, teeth in poor condition, and breath is foul. The left epitrochlear and the lymph nodes in both axillæ are palpable. Respiratory system is normal. There is a suggestive "water hammer" pulse. Heart shows some hypertrophy and there is a reduplication of the second pulmonary sound. There is a systolic and very soft diastolic murmur at the base of the heart. Over the apical region, the systolic murmur alone is heard. The spleen is not palpable. Both knees and both ankles are swollen, hot and tender. From the date of admission, November 1st, 1910, until February 23rd, 1911, a period of three and one half months, his chief signs and symptoms

were those found in acute rheumatic fever. The chief signs and symptoms were swelling and tenderness of the ankles, knees, and finger joints, præcordial pain of varying intensity and of an intermittent character, and the heart murmurs referred to above were always present. At irregular intervals there was profuse perspiration. The temperature varied between  $102^{\circ}$  ten days after admission, and  $97^{\circ}$ . Nearly every day it rose to  $99^{\circ}$ .

On February 22nd, 1911, his throat became sore and continued so until February 28th. On February 23rd there was an abrupt rise of temperature reaching  $103.4^{\circ}$ . This was accompanied by chilly sensations and profuse perspiration. The temperature returned to normal in the course of two hours. The following day his temperature rose to  $102^{\circ}$ ; this returned to normal, and his temperature chart showed the previous daily rise to  $99^{\circ}$  till March 13th, when it rose to  $100^{\circ}$ . On March 14th it was  $100^{\circ}$ , then fell to  $98^{\circ}$ . On March 15th he complained of anorexia, headache, increase of the præcordial pain and the temperature rose to  $101^{\circ}$ . It did not return to normal, but continued to rise by steps, and remained between  $104.4^{\circ}$  and  $100^{\circ}$ —the greater part of the time it was above  $103^{\circ}$ .

From March 15th, the day on which the last named signs and symptoms appeared, the chief characteristics of his condition were:—occasional sweats, vomiting, collapsing pulse, capillary pulsation, gallop rhythm, diarrhœa, enlarged spleen, rose spots, delirium, and abdominal pain. A positive Widal was obtained March 21st.

On March 22nd his white blood corpuscles were 4,200 per c. mm. On the afternoon of his death, April 13th, 1911, twenty-eight days after the onset of typhoid fever, the following note was made: "The patient has been somewhat cyanosed, pulse small and feeble; there is incontinence of fæces; the abdomen is flat and retracted. There is no capillary pulsation, the cardiac impulse is weaker; the heart sounds are distant, and no murmurs are heard; the lungs are clear. A blood count showed the white cells to be 21,000 per c.mm."

Post-mortem examination. M.G.H. A-11-45, April 14th, 1911 (Dr. McNaughton). Body is that of a fairly well developed, poorly nourished, adult white male.

Peritoneal cavity. Peritoneum is smooth, moist, and glistening. Mesenteric lymph nodes are enlarged, softened, and average 1 cm. in diameter. Near the cæcum, there are two lymph nodes, which measure 1.5 cm. in diameter. These are soft, and contain in their central portion yellowish purulent material.

Pleural cavity. Right pleuræ are smooth, moist, and glistening.

In the left pleural cavity there are a few fibrinous adhesions over the lateral surface of the upper lobe.

**Pericardial cavity:** The parietal layer of the pericardium is thickened and firmer than normal. On opening the cavity, there is a small amount of thick, yellowish, turbid material. Over the anterior surface of the right ventricle, the two layers of the pericardium are united by firm, fibrous adhesions.

**Heart:** Weight, 510 gms. Numerous small fibrous tags are adherent to the anterior surface of the right ventricle. The myocardium is firm and dark red in colour. The endocardium is smooth and glistening. The measurements of the heart valves are: T.V., 12; P.V., 8; M.V., 12; A.V., 7; L.V., 1.3; R.V., 0.4.

**Lungs:** The right lung is somewhat collapsed, slightly crepitant throughout, and bluish red in colour. No areas of consolidation are demonstrable.

**Left lung:** The pleura over the lateral surface of the upper lobe is dull and has a few fine tags adherent to it. The left lung is crepitant except in the upper lobe, where there is an area 6×3 cm., which is firm. On section the surface of the lung is bright red in colour, except the firm area referred to above, which is dark red. The cut surface here is dry and sections sink in water.

**Spleen:** Weight, 360 gms. The capsule is smooth, the edges are round. On section the surface is dark red in colour and very soft. An excess of pulp adheres to the knife on scraping. Anatomical markings are only fairly well defined.

**Gastro-intestinal tract:** The blood vessels of the intestines are somewhat injected, particularly in the last metre of the ileum and the caecum. On the peritoneal surface of the ileum, 2 cm. from the ileo-caecal valve, there is an elevated, greyish area 2 cm. in diameter. Peyer's patches are hypertrophied and injected. In the lower portion of the ileum they contain small ulcerations extending down to the muscularis. One, 2 cm. from the ileo-caecal valve, is 1 cm. in diameter, and is situated to one side of the greyish, elevated area on the peritoneal surface described above. In the caecum, the lymph follicles are very much hypertrophied. The mucous surface is injected. At one border of the appendicular orifice, there is an ulceration 0.8 cm. in diameter extending down to the muscularis. In the large intestine the lymph follicles are hypertrophied.

**Liver:** Weight, 2,130 gms. Is dark red in colour. On section the surface is dark red. Scattered throughout the organ there are a few pale grayish, sharply outlined areas 2×3 mm. in diameter.

**Kidneys:** Weight, 390 gms. Capsule strips easily leaving a



smooth surface. The pyramids are sharply differentiated from the cortex, which is 1 cm. in thickness and dark red in colour.

Anatomical diagnosis. Acute ulcerative enteritis (typhoid); acute pleurisy; acute localized peritonitis; focal necrosis of the liver; bronchopneumonia; hypertrophy of the heart; acute and chronic pericarditis; hypertrophy of the spleen and mesenteric lymph nodes; acute suppurative lymph adenitis (mesenteric).

On March 20th, 1911, a blood culture was taken. This was sterile. Cultures from the exudate in the pericardium and from the suppurating mesenteric lymph nodes gave a pure culture of *bacillus typhosus*.

Remarks. Pathological lesions of the pericardium due to *bacillus typhosus* are rare.

Horton Smith Hartley, in two hundred and ninety post mortem examinations on patients who had died with typhoid fever, found acute pericarditis occurring in 0.68 per cent. He gives no bacteriological report, and one cannot be sure whether or not these lesions were due to the *bacillus typhosus* or to some other organism.

In Osler's<sup>1</sup> statistics of fifteen hundred cases of typhoid fever, acute pericarditis occurred in three cases, or two per cent., with one death. In the case that died the *bacillus typhosus* was isolated in pure culture from the pericardial cavity.

According to a French report by Menard and Brodin,<sup>2</sup> there are two types of acute pericarditis occurring in typhoid fever, (1) the dry type; (2) the purulent type. Of these, the purulent type is less common, more severe, and occurs most commonly in young subjects—no bacteriological reports are given in this paper. For this reason the number of the acute pericardial lesions due to the *bacillus typhosus* cannot be determined.

Pericarditis during the course of fever may be due to organisms other than the *bacillus typhosus*; and unless this organism is recovered from the pericardial lesion, the lesion cannot with certainty be attributed to it.

The previous history of this case may have some bearing upon the development of the acute lesion found in the pericardium. During the attack of rheumatic fever, which began five months previous to the onset of typhoid fever, he complained of præcordial pain, and probably had at this time some acute pericardial lesion. This supposition is borne out by the autopsy findings. Besides the acute exudate on the pericardium, its two layers were firmly united in places by old adhesions. In this case the previous

lesion of the pericardium may have predisposed it to the development of the acute condition found at autopsy.

The acute suppurative condition of the mesenteric lymph nodes in this case is of some clinical importance. We have made an autopsy on a case of acute peritonitis developing in the course of typhoid fever, secondary to the rupture of a suppurative mesenteric lymph node. In this case none of the intestinal ulcers had perforated, and from the peritoneal exudate and the suppurating lymph node a pure culture of *bacillus typhosus* was recovered.

CASE 2. Acute hæmorrhagic pleurisy, due to *bacillus typhosus*. F. G. B., male, twenty-seven years of age, was admitted to the service of Dr. Molson, on October 3rd, 1910, complaining of sore throat, cough, and loss of appetite. He developed rose spots, and a positive Widal, and ran a typical course of typhoid fever. There were no signs or symptoms suggesting lung involvement aside from a slight cough and a few moist râles.

Pathological report. Extract of autopsy, M. G. H. A—10—181 (Dr. Waugh). Body is that of a poorly developed, poorly nourished, white male adult. The peritoneum is moist and smooth. Mesenteric lymph nodes are larger and somewhat softer than normal. The heart weighs 225 gms. It shows no pathological changes.

Pleural cavity. The right pleural cavity is normal. The left contains 375 c.c. of bright red fluid. The pleuræ on this side are bright red, in places covered by a fibrinous exudate, and the blood vessels are deeply injected.

Lungs. Irregularly distributed throughout both lungs there are a number of raised, dark red, firm areas, which vary from 3 to 5 mm. in diameter. At the lower anterior margin of the lower left lobe, there is a wedge-shaped, elevated, dark red, very firm area, which extends into the underlying lung tissue. About the periphery of this area, there is a narrow, bright red zone.

Spleen. Weight, 200 gms. It is moderately firm.

Gastro-intestinal tract. The last metre of the small intestines shows several longitudinal ulcerated areas, which are situated opposite the mesenteric attachment.

Liver. Weight, 1,925 gms. On section it shows a mottled appearance, due to small red areas separated by inter-communicating, narrow, yellowish lines. Gall bladder is normal.

Kidneys. Weight, 315 gms. On section they are pale and the cortices extend slightly beyond the incised capsule.

**ANATOMICAL DIAGNOSIS.** Acute ulcerative enteritis (typhoid); hypertrophy of spleen and mesenteric lymph nodes; acute hæmorrhagic pleuritis (left); infarct of lung (left); bronchopneumonia (bilateral); cloudy swelling of kidneys.

**Bacteriological report.** Cultures taken at the post mortem from the hæmorrhagic fluid in the left pleural cavity and the heart's blood, showed a pure culture of bacillus typhosus, which was agglutinated by the serum of a known case of typhoid in one hour in 1 in 40 and 1 in 80 dilutions.

**Remarks.** All writers agree as to the rarity of pleurisy in typhoid fever. In four hundred and ninety-two autopsies on typhoid fever made in the Middlesex Hospital, acute pleurisy was found in 0·813 per cent., and pleural effusion in 0·406 per cent. There are, in this paper, references to cases in which pleurisy has developed in the course of typhoid complicated by pneumonia, but no bacteriological reports are given. Hawkins<sup>3</sup> found no case that recovered, but he reports one case of typhoid complicated by acute pneumonia, acute pericarditis, acute endocarditis, and hæmorrhagic pleural effusion with recovery, but unfortunately he gives no bacteriological report. Horton Smith Hartley found no case in the St. Bartholomew Hospital records, covering a period of thirty years.

The organisms isolated from the pericardial cavity and the pleural cavity of the two cases reported above were identified by their staining properties and cultural changes in the ordinary laboratory mediums, as well as the various sugars.

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DURING the first six months of the present year, over two hundred carcasses of animals and over three thousand pounds of portions of such carcasses, which had been slaughtered and were to be sold for food, were condemned and confiscated by the Toronto medical health officer. Large quantities of fruit and vegetables were also condemned.

## THE PRESIDENT'S ADDRESS AT THE ANNUAL MEETING OF THE ASSOCIATION

Mr. Chairman and Members of the Association:

**I**F, in rising to address this national association as its president for the year, I confess to some small feeling of pride, I have little doubt you will forgive me for it. It is a feeling born, and legitimately born, of a deep sense of the honour you have laid upon me; and I trust you will accept the assurance of my heartfelt thanks.

Yet, deeply as I have appreciated the honour, I have felt the responsibilities of the office in an equal, or even a greater, degree. At times during the past year, let it be confessed, the work and worries incident to preparing for this meeting have almost made me regret my election. We all owe a debt of gratitude to the medical men in Edmonton and the city authorities for the arduous work they have done and the excellent help they have rendered.

Gentlemen, I do not propose in this presidential address to take up any one aspect of medicine in particular, as is done in many addresses of this character; nor to give a general review of the progress of medicine during the past year, with which many of you are better acquainted than I am. What I have set before myself is rather to review briefly the work of the association in the past two or three years; to point out the lines along which progress has been made, and along which, as I take it, progress has still to be made; to estimate what part in it all the West has taken and may take, and, finally, to make an appeal for greater unity in thought and in aim among the profession in Canada for the advancement of this Association. If what I have to say shall render even the slightest service to the cause of the association, and through it to the cause of medicine in Canada, I shall feel myself amply repaid.

The selection of Edmonton for the place of meeting of the association this year is significant. It marks the awakening of the East to the fact that this Western part of the middle West has come to man's estate, and is showing the lustiness of youth. We of Alberta who have grown up, so to speak, with the province, have been ourselves amazed at the strength and rapidity of her growth. But the East had not really recognized the fact. The Easterner knew much of Vancouver and Winnipeg, but little of Calgary and Edmonton. Your selection of Edmonton, therefore,

came as a welcome surprise. When it was first suggested, we immediately set our hearts on it. We desired greatly to give you a taste of Western hospitality, and we desired also that you should see us and observe how well we were getting on. Perhaps there is in us some such spirit as that of the boy who insists on his father measuring his height against the door every month.

However all this may be, you are eventually here, and in the name of Edmonton, and of Alberta, I bid you heartily welcome.

This is only the second time that the association has held its annual meeting in Alberta. In 1889 it met at Banff, and there were only eighty-two present.

Only two meetings in the history of the association have been held in the West previous to the present one. Of these, one, as I have said, was held at Banff, twenty-three years ago, in the year 1889. The president was Dr. H. H. Wright, of Ottawa, and the general secretary was Dr. James Bell, of Montreal, both of whom have since died. The vice-president for the North West Territory at that time was Dr. R. G. Brett, of Banff, who is so widely and favourably known throughout the West. The second of these meetings was held in Vancouver in August, 1904. The president was Dr. Tunstall, of Vancouver, and the secretary Dr. George Elliott, of Toronto. Dr. Elliott's annual report gave certain statistics of attendance which are interesting. He said that during the first decade after the organization of the association in 1867, there was an average attendance of seventy-one. In the second decade, from 1877 to 1887, there was an average attendance of 74.8; during the third decade, 107.5; while for the previous seven years, that is from 1897 to 1904, the average attendance was 139.1. In the light of these figures it is interesting to note that the average attendance for the past seven years has been 320, while if we count only the last three meetings since the inauguration of the JOURNAL it is 400.

In reading over the minutes of the Vancouver meeting, I came across two resolutions of interest to us. One concerned the question of a Public Health Department for the whole country, the other that of Dominion Registration.

At the Vancouver meeting in 1904, a strong resolution was passed, urging the Dominion Government to establish a department of public health under a minister of the crown; a matter which the association had been urging for three years. Unfortunately, this resolution, as well as others of a like purport, remained without effect. But I am happy to be able to say that matters in this direction now look more favourable. At the first meeting



of the Canadian Public Health Association, held last December in Montreal, under the presidency of Professor Starkey, Premier Borden promised that his government would institute a general reform in public health matters, and put that department on a sound and modern footing. In this he was supported by the Hon. Martin Burrell, Minister of Agriculture. We can thus hope that, before long, this very important question will be settled in the manner that this association has been urging for so long.

At the same meeting there was passed a resolution concerning Dominion Registration to which Dr. Roddick, of Montreal, had given so much of his time. This, too, has now come to pass, but only this year. During the present spring the so-called "Enabling Clause" was finally passed by Ontario, the last of the provinces which had previously been afraid that their provincial autonomy would be endangered; and I am glad to be able to say that we are finally in a position to begin the detail work of arranging for a Dominion Council.

The Roddick Bill aims at the establishing of one set of examinations and one standard of qualifications for the practice of medicine in Canada, in place of the different examinations and varying standards of the individual provinces. It was introduced in the House of Commons in 1902 by Dr. Roddick, then representing St. Antoine Division, Montreal. The bill was passed, but owing to objections raised to certain features by provinces jealous as to their existing rights, it was found impossible to give effect to the act.

About two years ago a meeting of the representatives of the provincial medical councils was held in Montreal, when Dr. Roddick succeeded in securing the consent of all to certain amendments which he proposed to the original act. These amendments, removing earlier objections, were embodied in a bill which was passed at the 1911 session of the Parliament in Ottawa. It is part of the act as it now stands that the provinces give their assent to the principle of the act through a bill passed in their own legislatures, and it is this step which has now been taken by all the provinces.

When the Dominion Medical Council is finally formed it will be possible for a physician, having passed the examinations prescribed by it, to practise in any province of Canada, instead of, as at present, only in the province or provinces where he has satisfied the requirements of the respective provincial medical councils. The Dominion Medical Council will have full authority over the purely professional subjects, while the provinces will probably ex-

ercise authority over the non-professional subjects of the examinations.

I have no doubt that I voice the sentiments of all of you here present, and indeed of the whole profession in Canada, when I say that we all owe a profound debt of gratitude to Dr. Roddick, who has been the direct means, and in a sense the only means, by which this beneficent law has been placed on the statute-books. We realize what a vast amount of time and energy he has expended on this work; how, indeed, he has given many of the best years of his life to it. And in thanking him we desire to record, not alone our appreciation of the work he has done, but also of the sacrifice it has cost him. If it is, in his eyes, any reward that the profession throughout the country feels grateful to him for his work; if it is to him any gratification that the whole of Canada has learned to call this bill the "Roddick Bill"; if it is any pleasure to him to realize that every member of the profession, thinking of this task which he has accomplished, looks up to him with respect largely mixed with affection, let him be assured that all this is true. It is an achievement which perhaps no other medical man in Canada could have brought to pass. The task of reconciling so many diverse and even warring interests in the various provinces of the Dominion; of overcoming prejudice, and of bringing together those of dissimilar views, was only to be accomplished by a man whose professional reputation was high from East to West, and whose tact had become almost proverbial from East to West. People not only gave him affection; they gave him respect. It was the combination of qualities of head and heart in him which finally brought this great matter to a successful conclusion. One of the chief privileges of my office this year lies in the opportunity which it affords me of thus giving public expression, on behalf of the association, to the gratitude which we all feel towards Dr. Roddick.

I have thought that this meeting would be interested in a short review of the recent work of the association. The association, it is true, has been in the last ten years steadily increasing in numbers, but the increase up to a recent period has been slow. The establishment of the JOURNAL two years ago gave an enormous impetus to its growth. With the inception of the JOURNAL, the conditions of membership were radically changed. In former years a member paid \$2.00 annual subscription, and paid it only when he attended the annual meetings. It is perfectly clear that with an annual attendance varying from one to three hundred,

the amount of money in the treasury was rarely sufficient to do more than pay the ordinary expenses of the secretary's office, together with the expenses incident to the annual meeting. The activities of the association along general lines were extremely hampered. Without an official organ and without money, there was very little that could be efficiently done. Now we have changed all that. Thanks to the labours of the Finance Committee of the past two years, we have established an efficient journal of the association, which, under the able editorship of Dr. Andrew Macphail, has already won a place for itself in the periodical literature of the medical world. We have hopes that within a short time we shall be able to make it a weekly instead of a monthly. That will, however, depend upon the support given the association by the profession at large throughout the country. In the second place, the establishment of the JOURNAL enabled the association to raise the membership fee to a reasonable amount, and to make membership in the association and the payment of the annual dues a permanent matter. I am instructed by the secretary and by the treasurer to say that this does not mean that the association has grown suddenly rich. In spite of the increased income, the necessary expenses connected with the publication of the JOURNAL have eaten up nearly all the revenue. But the profession now has an organ to represent it in Canada; and while it is yet too soon to expect that it can give adequate representation to all the branches of the profession, and though it must naturally fall short as yet of the standard which many of you hope for it, it has nevertheless done extraordinary good work, and is a journal of which we all feel proud.

During the last two years a second big piece of work has been carried on by your officers. I refer to the affiliation of the various Provincial Associations with the Canadian Medical Association. At present all of the provinces save one have declared themselves in favour of affiliation, and have become affiliated. I am convinced that this work will be of the greatest benefit to the profession in Canada.

I pass now to a brief consideration of the needs of the future. Along what lines are advances to be made? To begin with, there is one matter, gentlemen, which I think is of paramount importance to this Association, and it is this: the consolidation of the profession in Canada into one strong and united body. That task can be accomplished by no other means than by this national association. We have already done something towards this end. No longer

than three years ago, we were a very haphazard body. The membership was constituted, for all practical purposes, only by those who came to the annual meeting—from three hundred to four hundred men. And these, of course, varied enormously from year to year, according to the part of the country in which the meeting happened to be held. With this state of affairs, there was no possibility of concerted action. A great step forward was made in the establishment of the JOURNAL of the Association, and in making membership continuous, and the payment of the fee an annual necessity for continued membership. The establishment of the JOURNAL involved, as I happen to know, a very great amount of labour on the part of the Finance Committee, and the thanks of the association are due to the members of the Finance Committee for the last three years, as well as to its able and self-sacrificing editor, Dr. Andrew Macphail. The JOURNAL has had a very excellent start. It had to be begun as a monthly, but we look forward to its becoming, before long, a weekly. Canada can afford plenty of good material for a weekly, if material were all that was needed. But, unfortunately, journals cannot live on material alone. The financial burden of the undertaking is very great; and the Finance Committee assures me that unless the membership roll of the Association increases very considerably, it will be impossible to stand the expenses of a weekly. When we consider that the JOURNAL, as the organ of the Canadian Medical Association, is the one great bond which alone can unite the profession from East to West, we cannot fail to realize the great importance of loyal adherence to the Association. It means so much to the profession in Canada as a whole, and to each individual man, that there should exist a strong central body, like the Canadian Medical Association, to look after their interests, that I cannot conceive how any medical man should remain out of it.

This, then, is the great problem—to get the Canadian Medical Association solidly cemented together. How is it to be done? To my mind, it is to be done by an extension of the principle of affiliation. Two years ago the only province that had declared itself in favour of affiliation with the Canadian Medical Association, and that became affiliated, was Ontario. In the last two years all but one of the provinces have followed Ontario's lead, and the one exception has declared itself unofficially in favour of affiliation at an early date. This is the necessary beginning. But what we have yet to do towards organization, is to create a properly constituted body, a sort of parliament, with proportionate representa-

tion from each province. Hitherto we have had the Executive Council, but this body has been chosen in an absolutely casual way at the times of the general meetings by members who happened to be present at the first meeting of the session. The members of the Executive Council should be properly elected by the respective provincial associations, and the council should have more work given to it and greater responsibility placed upon it than in the past.

But this affiliation of the provincial associations with the Dominion Association is only half of what should be done. The principle of affiliation should be extended to embrace the relations of the provincial with the county and city societies. At present, this is practically barren ground. The county societies have no relations with the provincial associations. They are casual and independent. Yet there can be no doubt, that, to cement the profession together, the bond between the county and provincial societies ought to be quite as close as that between the provincial and national associations.

This then, gentlemen, is what I feel sure we must strive for, and what I ask your coöperation in. Let us begin with the county societies as the centre of things. Let us group, if necessary, several counties into one good district society. Let these elect members as delegates or officers to the respective provincial associations. Where no county societies exist, let the men of that particular region organize one. This has already been proposed for Ontario by Dr. Herbert Bruce, in his recent address as President of the Ontario Medical Association for this year. He said: "I think it very desirable that there should be an increase in the number of small county medical societies, and I should like to suggest that, for this purpose, the province be divided into ten districts corresponding to the ten health districts recently established by the provisions of the new health bill. As there are forty-seven counties in the province, this would mean that each society would include four or five counties, which appears to me to be a practical arrangement. Then the method of securing membership in the Ontario Medical Association would be simplified by accepting the members of these smaller societies, which would obviously be in a better position to determine their qualifications." It seems to me that Dr. Bruce's proposal is of the greatest importance, and I would urge that a similar plan be adopted by the other provinces. Indeed, I think, gentlemen, that if this address has any value at all, that value lies in the advocacy of the idea just described. This is not



the place to go into details of organization, which may well be left to the Executive Council and the general secretary; but I am convinced that a close union of all the county societies with their provincial association is the great need of the immediate future for this Association.

But it may be asked by some of you, what, after all, are the advantages to be gained by this scheme of consolidation or affiliation? Are we going to be any better off for it? Perhaps the best reply I can make to such a hypothetical question is to point to the extraordinary success of the American Medical Association. I presume it can safely be said that no national association in the world has accomplished so much in so short a space of time for the general good of the profession, as has the American Association. Any one who has followed its work at all closely, cannot but admire the extraordinary amount of good, both for the profession and for the public, which it has accomplished in the last ten to twenty years. The scope of its activities has widened enormously. It would be impossible in an address of this nature to refer in detail to all these activities, but I cannot avoid calling your attention to a few of them. It is well known to you that in the matter of medical education, not many years ago, the States, with the exception of a few prominent universities, were in a deplorable condition as regards their medical schools. The proprietary school, and as a more or less natural result, the diploma mill, flourished. The American Medical Association set itself to clean their Augean stables. Their stables were encumbered with such stuff as the diploma mill, a low standard of professional conduct, commercialism, quack medicines, dishonest proprietary remedies, all sorts of fake cures, and all sorts of patent medicines. They have not rid themselves, by a long way, of these matters of reproach, nor indeed has any country anywhere, but they have waged a very good war against them, and in that they serve us as a very good example. What have they done? They have established permanent, and active, and hard working committees on medical education, which have reduced the number of the low class medical schools to nearly half what they were before. They have established a committee on legislation which, in a great many ways, has been of the greatest assistance in fighting the passage of bills in favour of unqualified sects in medicine, and in favour of the proprietary interests; they have established committees on such subjects of general interest as anæsthesia and the newer remedies, which have given to the profession at large reliable information upon these things. They



have organized a very large proportion of the profession in America into a united body; they have published the fullest and most accurate directory of the medical men in the United States and Canada that exists, from which, by the way, our own association has derived much benefit. They have gradually made of the *Journal* of the Association, the best all round weekly in the world; certainly the best for the general practitioner. Now the secret of the whole thing, the key-note of its success, has lain in its power to secure the loyal support of the profession throughout the country, and this they have done by the plan of organization that I have outlined above,—county societies uniting to form state associations, and state associations uniting to form the national association. It means something to a man to be a member of a county society, for that is the only gateway to membership in the state and national associations. There is no reason why we in Canada should not make a like success with our own Association and our own JOURNAL. All we need is a good start, and if we can arouse the enthusiasm and obtain the loyal support of the majority of the profession in Canada, we shall be able to follow out a like successful career. If we can only secure a large enough membership to justify the expenses of making our monthly into a weekly, we can then go ahead at a great pace. The JOURNAL will attract new members; it will pay, and more than pay, its own running expenses; it can serve as a medium of publication for the whole profession; it can influence the legislatures to enact good medical laws; it can wage effectual war on the nostrum vendors and the quacks of all descriptions; it can furnish up to date information on all subjects of interest to the general practitioner; and it can do a thousand other things which I have not space to mention here. Any tendency to the narrow view, to an exclusive attention to home affairs, to provincial chauvinism, to country or city narrowness, to personal absorption in one's own practice to the exclusion of a larger view of national medical affairs, must be combatted; and I think that I strike no false note in appealing to you all who are here present to act in your own district as missionaries in this problem, to arouse a pride in our association and a willingness to work for it. I think that I can guarantee that so far as the West is concerned that spirit is already strong in us.

Gentlemen, I know you will forgive me, knowing me as you do of old for an enthusiastic Westerner, if I now allow myself in closing, a few words upon what seems to me to be the value of the West to the profession of medicine in Canada and to this Associ-

ation, and a few words also upon the future of medicine in the West.

What is the value of the West to medicine? Does not the answer lie in the words, energy and newness and opportunity. The West is young and lusty, and full of life. It has a love of action, and it has a love of newness. It is unhampered by traditions, whether of conduct or of science. It will do the things that it thinks right, whether in conduct or in science. I really do believe that, in medicine as in the rest of human endeavour, the West is going to supply that leaven of originality which, after all, is "the one thing needful." The West thinks boldly and acts boldly, by necessity first, then by conviction, and ultimately by habit. Give the West a little more time to establish herself soundly in the higher education, by means of provincial universities, and she will yield a rich harvest of energetic and trained men who will have in them that invaluable dash of western originality which makes for really big work.

And now, what is to be the future of medicine in Alberta and the West? I think it will be admitted by everybody that the goal towards which we must strive in the matter of medical education in Canada, is the establishment of a first class medical school in each province of the Dominion, as part of a provincial university. This does not mean that each province must have a medical school as a necessity of itself; it means rather that with the enormous growth in population in Canada, it will become inevitable that each province shall have a medical school, and that we must see to it that that medical school is a first class one. In Alberta, we already have, and have had for the past four years, a provincial university which is doing excellent work under the able presidency of Professor Tory. We have no doubt that before very long we shall be able to establish a good medical faculty. And I would point out that we have already in Alberta, first class facilities for the education of the medical man. Our hospitals are excellent institutions, and will soon be quite large enough to serve efficiently for the teaching of medicine. What we must aim at, is to establish close relations between the university and any proposed beginnings of medical teaching. There is plenty of money in the country with which to endow education. It must be our business to show to our wealthy business men the advantages which must accrue to the province at large from any financial help given to the cause of general education. I place my faith in the growing wealth of this new country, and not less in the inherent generosity of the Westerner.

It seems to me inevitable that our country will before long, not only have a university and a medical school that one may be proud of, but that these will be amply endowed with money made in the West, and given by the generous men of the West. All this may probably happen in Vancouver before it happens in Alberta, but we shall certainly not be far behind.

Looking forward, as I do, in this hopeful way to the future of medicine in the West, and anticipating as I do the training of medical men in the West, I feel sure that when we do graduate men in medicine out here, these men will do us credit. Like all Westerners, our graduates will have the love of travel, perhaps more so than have they of the East, and perhaps on the average they will have more money to do their travelling with. Already our medical men are well known in the big clinics in this country and abroad, from the mere fact that they visit them so often. This will make for broadness of view. If you get in any man broadness of view combined with energy and the progressive spirit, you get exactly those qualities which make for the advancement of medicine as a whole and the welfare of the patient in particular.

We have, out here, the advantages of a clean slate. We can begin right. We can begin where others leave off, unhampered by conditions that have got set and that are difficult to change. I hail the meeting of this national Association in Alberta, as a great stimulus. Our own men will be more encouraged to better work and our laymen will have an opportunity of seeing what the profession is doing for Canada.

And now, fellow-members of the Canadian Medical Association, I desire in closing to thank you for your patience. Yet I would not quite finish with nothing but the customary "thanks" in my mouth. Rather would I end with a renewed appeal to all the members here present, and to the whole profession in Canada, to unite themselves heartily together in this national Association, for the benefit of the individual and the benefit of the whole.

Calgary

H. G. MACKID

## Case Reports

### REPORT OF TWO CASES OF ABDOMINAL SURGERY

**CASE 1:** Removal of a large fibro-sarcoma of the mesentery, together with nine feet eleven inches of the small intestine.

On December 26th, 1911, Dr. Dougan, of Harvey Station, brought into town a Mrs. W. R. to consult me because of an abdominal tumour. She was the mother of eleven children, the youngest being nine years. Her age was fifty, and menstruation had been somewhat irregular of late. Up to two years ago she had always enjoyed good health. At that time she had a severe attack of stomach trouble, attended with pain and belching of wind, which lasted about a week. Six months afterwards she had a similar attack. Since then these spells have recurred more and more frequently. They have never been accompanied by vomiting. For some months past constipation has been an increasingly prominent symptom, and she has lost a considerable amount of flesh. About a month ago she accidentally felt a lump in the abdomen, no pain or soreness calling attention to it. One of her sisters died of cancer of the breast.

On examination I find her a rather pale woman, but not badly nourished. In the belly is felt a hard and somewhat irregular tumour about the size of a foetal head lying in the median region and extending from a little above the navel to a point midway between that and the pubes. It is fairly movable, and not much, if at all, tender on palpation. Per vaginam I can find no connexion between the tumour and any of the pelvic organs.

As her bowels had been well moved on the previous day in order to prepare her for an immediate operation on her arrival, the anæsthetic was administered by Dr. Dougan, and with Dr. Holden assisting, an incision was made in the median line from a point two inches above the navel to four or five inches below it. On clearing away the parts I found a dark red tumour, hard and somewhat nodulated, occupying the middle of the mesentery, its border reaching to within an inch of the bowel. There were no enlarged glands, and the liver seemed all right.

After freeing the tumour from its surroundings I lifted it out of the abdomen. I now placed ligatures of linen thread all around it, about three-quarters of an inch from its margin, and cut it away.

Clamps were then applied on a line corresponding to the amount of mesentery removed, and this portion of bowel removed. An end to end union was made with two rows of linen suture, and the mesentery was sutured with the same material. After cleaning up the parts, I replaced the bowel and closed the abdominal wound with tiers of catgut for the deeper parts and interrupted silk-worm gut for the skin.

December 27th.—Slept three hours without any opiate. Has raised gas often, but has had very little vomiting. P. 70; T. 98°. Dr. Holden has measured the length of bowel removed and found it to be nine feet eleven inches. He has also examined the tumour, and it proved to be a spindle-celled sarcoma.

December 28th.—Rested fairly well last night. Has vomited a few times during the last twenty-four hours. P., 84; T., 99°. Complains of a feeling of weight and distress in the upper abdomen, for which I washed out the stomach. In the evening I repeated the washing-out with considerable relief.

December 29th.—Passed a fair night. Has taken a little milk and tea and retained it. Pulse, 62; T., 98°.

December 30th.—Had a small loose movement of the bowels this morning. Has taken a few ounces of beef-tea. Pulse and temperature as yesterday.

December 31st.—A good night. A loose movement again this morning. Asks for and may have a small piece of toast.

January 6th.—A couple of loose stools every day, but otherwise doing well. An occasional dose of one-twelfth of a grain of morphine to help keep the bowels quiet.

January 13th.—Bowels remain the same. Patient is out of bed. Sutures are all out and the wound soundly healed.

January 19th.—Improving rapidly in every way except as regards the bowels. Left for her home by train and sleigh this morning.

March 20th.—Her husband reports that patient is gaining in flesh and strength, and that her bowels are "all right."

July 1st.—I learn from Dr. Dougan that she is continuing in good health.

Remarks: The case above related, we think is worthy of record, both on account of the somewhat unusual situation of such a tumour, as well as because of the removal of so extensive a portion of the intestine. The rapidity and smoothness of the convalescence seems to me surprising after so serious an operation. The pulse never reached as high as 90, and the temperature registered at no time as much as 100 degrees.



Apparently one of the chief troubles which are apt to follow an extensive resection of the small intestine is an obstinate diarrhoea. In this case, however, although for a few weeks some looseness occurred, from the latest reports this seems to have entirely ceased.

Furthermore, one would have expected that after the removal of so large a part of the small intestine, there would scarcely be enough left to provide for the proper nutrition of the body; but as a matter of fact, the weight of the patient has increased since the operation, and in every way she is doing well.

In the November number of the *Annals of Surgery* for 1911, Dr. Whitall, of Philadelphia, reports a successful case of removal of ten feet eight inches of the bowel, which had escaped through a tear in the uterus after the removal of a four months foetus. In this article he refers to a report by Dr. Roswell Park of five other resections of the intestine, where from ten feet four inches to twelve feet two inches had been removed by different operators with three recoveries and two deaths.

CASE 2: Lane's operation of short-circuiting for intestinal stasis.

E. H., aged twenty-two years, school teacher. Four years ago had an attack of what was supposed to be appendicitis of a few hours' duration. A year afterwards suffered from a mild attack of typhoid fever. Subsequently he began to be troubled with constipation, which gradually grew worse, until neither cathartics nor enemas gave satisfactory relief. On several occasions during the last three years he has had severe and prolonged bouts of vomiting, which seemed to be due to the constipation. In the fall of 1911, one of these attacks lasted two weeks, and the attending physician advised an abdominal section, but he finally got better without it. After this attack he got quite well again, with the exception of his old difficulty of getting a movement of the bowels, which became worse than ever. On being consulted, therefore, I advised an exploratory incision to see if anything could be done to remedy the trouble. To this he consented, and on January 15th I did the following operation, with the assistance of Drs. Holden and Mullin.

An incision five inches in length was made to the outer side of the left rectus, and the descending colon was found to be all right. Then I passed my hand across to the other side, and there I felt adhesions about the cæcum and ascending colon. Having placed a



few temporary sutures in this incision to prevent the bowel from escaping, I made another on the opposite side, and getting hold of the lower end of the ileum I secured it with two clamps about six inches from the cæcum, and divided it between them. After burning the mucous membrane of the lower end with the thermo-cautery, I closed it with a through and through suture of chromic catgut and a Lembert of linen. I now carried the proximal end beneath the abdominal wall out through the first incision, and, pulling up the upper part of the rectum, made an end to side anastomosis, both rows of suture being of linen.

I did not see or feel the appendix during the whole operation, probably because it was hidden by adhesions. After cleaning up the parts, the incisions were closed as in Case 1. The whole operation was rendered unusually difficult because of the constant straining of the patient and the constant tendency of the intestine to escape through the wounds.

January 16th.—Has been troubled with gas very much since the operation, and has had two hypodermics of one-eighth of a grain of morphine. He has had frequent vomiting, also, during the night. The pulse is 110; T., 98.6°.

January 17th.—A good deal of restlessness, pain, and vomiting still continues. Had a hypodermic of one-sixth of a grain of morphine in the night. P., 110; T., 98°. Washed out the stomach, but little was got away.

January 19th.—Vomiting keeps up. The stomach was washed out yesterday with some apparent relief. P., 104; T., 98°. At eight o'clock in the evening I changed the dressings for the first time. There was a slight redness about some of the stitches, but otherwise the wounds looked well.

January 21st.—Not much vomiting since last report. Liquid fæces are escaping through a rectal tube.

January 24th.—Bowels move nearly every day.

January 25th.—During last night some thin serous discharge was found on dressings on left side, and on uncovering this wound it was found that some of the sutures had given way and a knuckle of bowel was protruding. This was returned by the nurse and a strip or two of adhesive plaster put on, but at my visit I found that all the sutures had yielded and the intestine was freely escaping. I therefore injected a weak solution of cocain on each side of the incision and put in through and through mattress sutures of silk-worm gut, a pledget of gauze being placed beneath the loops at each side. I did not dare to give an anæsthetic for fear of a repetition of the previous retching and vomiting.

January 25th.—On removing the dressings from the wound on the right side this morning, I found the stitches all torn out there and the bowel protruding. I at once closed it as I had done the one on the other side.

January 26th.—Some morphine was required last night to relieve pain; patient slept fairly well. Some serous discharge. P., 100; T., normal.

January 28th.—Doing well. P., 70; temperature runs from normal in the morning to 99.2 in the evening. Bowels are moved every day, either spontaneously or by enema.

February 7th.—Sutures all removed from both wounds. Bowels are rather sluggish and require an occasional enema.

February 14th.—Doing well. Left hospital for home.

April 7th.—Feels better and brighter than before operation, but frequently requires a glycerine suppository or enema. The stools are always soft, however.

June 27th.—Is looking and feeling well, but bowels still require a little help to secure a movement.

Remarks: The unfortunate giving way of the sutures in this case was mainly due, no doubt, to the strain put upon them by the frequent and prolonged vomiting, which occurred after the anæsthetic. It is possible, too, that some slight sepsis in the wounds may have been a contributing cause, although a little redness about the individual stitch holes was the only evidence of such, and little if any pus was seen at any time.

The operation has, so far, given a marked degree of relief in this patient, and, if difficulty in getting a stool should become very considerable again, one can have resort to the excision of the unused portion of bowel, which Mr. Lane recommends should be done in these cases. Indeed, he advises that this should be done in all cases in which the additional shock thereby occasioned is not too much of a tax on the patient.

Lane goes so far as to recommend his operation for children with tubercular joints and for women suffering from cystic degeneration of the breasts, claiming that these diseases are often produced by the absorption of the poisonous material which is contained in the unduly retained fæces. Whether he is right in attributing so much disturbance of the system to this cause remains to be proved by the results obtained. It seems scarcely possible that so varied an amount of disease can be produced by intestinal stasis as is claimed by him.

Fredericton.

A. B. ATHERTON.

A CASE OF ACUTE FAT NECROSIS; OPERATION;  
RECOVERY

THROUGH the kindness of Dr. W. A. Sangster, of Stouffville, Ont., I was called on August 24th, 1911, to see Mrs. R., who gave the following history. On August 19th and 20th she was constipated, but was not laid up with it. On August 21st she was seized with acute pain in the epigastrium, with vomiting. Dr. Sangster was then called in and, on his arrival, he found her in a state of collapse, with marked rigidity of the whole abdomen. Stimulants and sedatives improved her condition during the next twenty-four hours, but the pain and soreness persisted, and in the three following days gradually spread from the right hypochondriac region across the epigastrium to the left side. Her temperature during this time ranged from 98° to 101° and the pulse from 120 to 140.

On Thursday, August 24th, I was called in consultation. The patient, a woman, thirty-seven years of age, was large and very fat, and was lying in bed looking very sick. She was markedly flushed and looked very toxic. As she had just had a free evacuation of her bowels, she said she felt a little more comfortable than before. She was slightly jaundiced. Her temperature was 102°, and pulse 140. On examining the abdomen, I found the wall had a very thick layer of subcutaneous fat. Rigidity was present all over, but was more marked on the right side. The whole upper part of the abdomen was tender, but the gall-bladder area was especially so. The presence of the rigidity, tenderness, and a thick abdominal wall, made it impossible to determine the presence, or absence, of a tumour.

On inquiring into her past history, I found that she had had a number of attacks of colic in the gall-region. Immediate operation was advised, a tentative diagnosis of acute cholecystitis with gall-stones being made.

An incision was made through the upper right rectus and, on opening the peritoneum, the omentum was found adherent to its under surface, but was readily separated. I found the omentum enormously thickened and indurated. Studded all through it were yellowish white circular nodules of the size, consistency, and appearance of split peas; each nodule was well circumscribed. Behind the omentum was an indefinite, hard, indurated, and immovable mass running transversely across the posterior wall of the abdomen, corresponding in position to the pancreas and approximately about

three times its normal size. This was also studded with hard nodules like those in the omentum. The gall-bladder was deep down on the under surface of the liver, and could not be brought up into the abdominal wound on account of the thick adherent omentum and the mass below it. Some small stones could be felt in it, but it was not tense or distended. In view of the patient's general condition, and the extent of the disease in the abdominal cavity, I did not consider it advisable at this juncture to open into the gall-bladder and remove the stones. A section of the omentum with some nodules in it was removed for microscopic examination. A large drainage tube was passed down to the region of the head of the pancreas, and the abdominal wall closed with silk-worm gut, catgut, and horse-hair.

Her condition, from this time on, slowly improved. The discharge from the wound was foul smelling and profuse, and continued for three weeks. The temperature varied from normal to  $101^{\circ}$  or  $102^{\circ}$ , and both the pulse and respirations were increased in frequency. On October 15th, her doctor reports that she is in fair health, being well enough to drive six miles across the country to call on her mother.

Microscopic examination of the section of omentum shows a condition of acute inflammation of the interstitial connective tissue, with infiltration of polymorphonuclear leucocytes and congestion of the blood vessels. Areas of fat necrosis, several millimetres in diameter, are seen in the midst of the normal fat cells. They appear as indefinite homogeneous masses, in which the cells have lost their nuclei and the cell-walls have disappeared.

The condition of fat-necrosis is usually associated with some definite lesion of the pancreas, such as a hæmorrhagic infiltration, or a gangrenous or suppurative inflammation of the gland. "The researches of Hildebrand and Flexner have proved that fat-necrosis is due to the liberation of the fat-splitting ferment of the pancreatic secretion, which acts upon the fatty substance of the pancreas and adjacent parts, converting the fats into fatty acids, and subsequently into salts formed by the combination of the fatty acids with calcium" (Adami). The above case was undoubtedly one of acute gangrenous pancreatitis, because it came on suddenly and acutely with marked depression, because the pancreas was found enlarged at the time of operation, and because the discharge from the wound afterwards was very foul in character and contained sloughs. The case is also interesting from the fact that it recovered, a result which is not generally expected in such cases.

Toronto

E. STANLEY RYERSON

## Editorial

### THE ANNUAL MEETING AT EDMONTON

THE Canadian Medical Association held its forty-fifth annual meeting at Edmonton, from Saturday to Wednesday, August 10th to 14th.

It was the second meeting in the history of the Association held in Alberta, the first one being at Banff in the year 1889, when eighty-two members registered. At this meeting at Edmonton there was a registration of three hundred and fifty members. In all respects, save that of punctuality in starting the work of the sessions, it may be said to have been an unqualified success. True, there was a little trouble in getting sufficient hotel accommodation, but this was most pleasantly overcome by the private hospitality of the Edmonton men, and particularly of Professor Tory, principal of the Alberta University.

The entertainment provided for the visitors left nothing to be desired, and the proverbial hospitality of the West had ample occasion to show itself, and did show itself.

The general meetings of the association, convened for the purpose of hearing addresses from distinguished visitors and from distinguished men within the Association were unusually interesting.

The address in surgery given by Dr. A. E. Giles, of London, England, was remarkable for its grace of diction and aptness of quotation. It was an ideal "*melange*" of scientific knowledge, literary excellence, and graceful delivery. And indeed the same may be said with all truth of the address in medicine by Dr. Blackader, of Montreal, and Dr. Adami's address, which was delivered at an evening session and which was graced by the presence of a large number of ladies.



Dr. Blackader delivered a most able dissertation upon "The Outlook in Modern Therapeutics," in which he reviewed somewhat extensively the work of the last score of years, not only in questions of *materia medica*, but also in those of the more recent advances in serotherapy, and particularly the work of Ehrlich. The address was no mere compilation, though indeed it was a most able and critical compilation too; it was also characterized by expressions of personal opinion gathered from a vast clinical experience controlled by scientific knowledge and the habit of scientific thinking.

Dr. Adami, in his address entitled "The Sins of the Fathers," which was to some extent of a popular character, took up in a general way the question of heredity, explaining its scientific bases; and thereupon made the practical application, speaking particularly of certain phases of the modern science of eugenics. He spoke especially of the influence of alcohol, insanity, and lues upon the children of parents suffering from these diseases. As a whole, the address was a strong plea for popular education along these lines.

Dr. Mackid, of Calgary, was the president for the year, and he is to be sincerely congratulated upon the manner in which he discharged duties that were perhaps more onerous than usual. It may be said without fear of contradiction that a large share of the success of the meeting was due to his untiring efforts throughout the year in visiting personally all the medical associations from Vancouver to Halifax in the interests of this meeting, as well as to his unbounded hospitality during the meeting.

His presidential address was remarkable for its broad outlook upon the work and needs of the Association, and for the practical character of the suggestions contained in it, looking towards the development and improvement of the Association. We would call particular attention to his advocacy of a campaign for the organization of the town and county medical societies, and for their closer union with the



provincial association, of which they formed a natural, but as yet unorganized, part. We are glad to note that a resolution was adopted by the association as a whole that campaign work in the direction indicated by Dr. Mackid should be begun immediately in each province.

So much for the practical part of the presidential address; but we can hardly omit reference to his most interesting *résumé* of medicine in the West, and the value of the West to medicine. Among other things, he pointed out very happily the effect of those qualities of mind which are in a sense particular to the West—qualities of energy and of the love of newness—when these are applied to the practice of a science which is constantly advancing.

A feature of the meeting was the frequent reference, both in the president's address and in the after-dinner speeches, to the work of Dr. Roddick, of Montreal, in his finally bringing into effect the Roddick Bill. The general feeling of gratitude to Dr. Roddick was eloquently expressed by the president, and took effect in a motion presented by Dr. Forin, of Edmonton, and seconded by Dr. B. J. McConnell, of Morden, Manitoba, to the following effect:

"That in recognition of the distinguished services rendered by Dr. T. G. Roddick, in promoting and carrying to a successful issue the Dominion Registration Act, this Association make him for life Honorary President of the Canadian Medical Association."

We are very happy to record this action of the Association, for we are sure that it will not only be a source of deep gratification to Dr. Roddick, who richly deserves this mark of esteem, but that it represents the feeling of the entire profession in Canada.

The formal sessions closed on Wednesday at noon. In a general way it may be said that the level of scientific excellence which one has learnt to expect at the meetings of the Canadian Medical Association, was well maintained. Of

these a more detailed report will be found in later numbers of the JOURNAL.

It is gratifying to learn from the report of the general secretary that the membership of the Association has increased during the past year by over three hundred and fifty members, including the new members who joined at the Montreal meeting of last year. These, together with the additions to membership at the present meeting, bring the sum-total up to over one thousand four hundred.

The Executive Council decided upon London, Ontario, as the next place of meeting, and at the last general meeting Dr. H. A. McCallum, Professor of Medicine in the London University, was chosen as the President Elect.

In conclusion, on behalf of the association as a whole, we must tender our thanks to the members at Edmonton, and to the President, Dr. Mackid, for all their hard work in preparing for what has been one of the pleasantest meetings of the Association in many years.

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### EATING THE LEEK

*Enter Fluellen.*

*Flu.*—Got's plood! Up to the preaches, you rascals! Will you not up to the preaches?

*(Driving them forward.)*

*Pist.* Be merciful, great duke, to men of mould!

Abate thy rage, abate thy manly rage!

Abate thy rage, great duke!

Good bawcock, bate thy rage! use lenity, sweet chuck!

**I**T cannot be denied that the logical outcome of the present attitude of our profession towards its duties and towards the laity, is the establishment, in the not distant future, of what may be termed the Chinese method of recompense. When our profession as a body takes the foremost place in promoting the prevention of disease, the greater its triumphs the fewer must be the patients, the less the income of the practitioner. If this altruism is to continue,—and it is bound to continue,—

the only rational means whereby the general practitioner can keep body and soul together will be by the community paying for being kept well, rather than for being treated when sick. We can, indeed, go further and lay down that just as preventive medicine, as public medicine, is calculated not for the benefit of any particular individual, but for the well-being of the community at large, so, not the individual but the community must recompense the doctor, and the general practice of medicine must become a national service, endowed by the state.

That strange, uncomfortable demagogue enthusiast, Lloyd George, who for good or ill, has of late years exercised so large an influence upon the destinies of Great Britain, would seem in his Insurance Act to have had a premonition that this is the future of medicine, in fact, to be preparing for a nationalization of the profession. It would be useless to deny that the Act, could it be carried out with the loyal coöperation of all parties, would do much to improve the health conditions in the Old Country. If one section alone could be carried into operation, that, namely, providing for the eradication of tuberculosis by a complete national system of dispensaries, hospitals and sanatoria, its benefits to Great Britain would be incalculable.

But, unfortunately, in his impulsiveness Mr. Lloyd George has gone the wrong way to work. So radical a change as that proposed, that of establishing national insurance with its sequential free medical treatment, can only be carried out with the cordial agreement of the medical profession. Now, the medical profession in Great Britain, just as here in Canada, is formed of free and independent individuals. No profession has been less untrammelled—there is not even a state license to practise. What control there is, including medical registration, is in the hands of the Medical Council, a body composed wholly of medical men, thirty-four in number, of whom but five are appointed by His Majesty-in-Council, the rest being chosen by the various license-granting corporations and

by the profession at large. It is one thing for certain members of the profession to enter voluntarily into agreements with sundry Friendly Societies and other bodies to treat the members of those societies at a given rate per head; that is wholly within the liberty of the individual. It is a very different matter for the government to lay down, without consultation or freedom of choice, that henceforth a definite sum per annum shall be the amount paid by the State for the care of all those (some thirteen million in number) who, their wages being below a certain minimum, must enter into the scheme of national insurance. Had Mr. Lloyd George approached the profession in the first place, asking for advice regarding the scheme and regarding the scale of the capitation fee, matters would have been very different. There is not the least doubt but that the majority of the general practitioners of Great Britain would have entered cordially into the scheme; but it is a very different matter to be told by this Fluellen to eat his uncooked leek, willy nilly.

The result has been that, with a unanimity never before exhibited, the profession has come together, and on July 24th, at the Liverpool meeting of the British Medical Association, has repudiated Mr. Lloyd George, and has refused to accept office of any kind under the National Insurance Bill until the demand of the association be acceded to that the government grant for medical attendance upon the subjects of insurance shall be eight shillings and sixpence (\$2.10, or thereabouts) in place of six shillings, which had been thrown to the profession without consultation or so much as "by your leave." It is deserving of note that this capitation grant of eight shillings and sixpence is what the government and the municipalities grant for attendance upon the members of the post-office staff, the fireman, and the police.

And now Fluellen may bluster, or cringe, or indulge in perfervid oration to his heart's content, but it looks very much as though he himself must eat the leek.

It is just to our *confreres* to state that we do not for a

moment believe that their revolt has been determined primarily by pecuniary considerations. The profession has felt itself insulted by the treatment to which it has been subjected, and it is most inspiring to see that, as a body of free and independent men, our *confreres* have risen in union. The profession as a whole would rejoice to be delivered from the thralldom of the Friendly Societies, and from the miserable rates which the struggle for existence makes it necessary to accept from those organizations. But it is one thing for a man whose whole education has taught him to rejoice in his freedom to accept a low wage in the open market, and quite another thing for him to be forced to accept a capitation fee without his wishes being considered. We cordially hope that our *confreres* will remain firmly banded together until Mr. Lloyd George eats his leek with good grace, and approaches them in the proper spirit.

*"Use lenity, sweet chuck!"*

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#### THE WHITBY ASYLUM

THE mentally afflicted of Ontario are to enjoy every advantage and nothing is to be left undone that may add to their chances of recovery. One of the most potent factors in the development of the body is found in environment; that this is equally true of the mind is recognized by those who have planned the new asylum at Whitby. The asylum will consist of a group of buildings ideally situated and overlooking the Whitby Bay and the beautiful lake of Ontario. Instead of one central insane asylum, there will be several hospital buildings, in which patients will be treated as their condition may demand; there will be, in addition, cottages where patients may be placed who are only temporarily afflicted or who are convalescing. In this way, people who are suffering from slight mental trouble, and who would shrink from entering an insane asylum, can be treated in the admission hospital building, and thus avoid the horror of close

proximity with those who are violently insane. These cottages, or convalescent homes, will be eight in number, and will be built as nearly as possible like summer residences; each cottage will provide room for fifty patients.

Two wards are provided for the treatment of advanced cases. These have been placed at some distance from the cottages, so that those undergoing treatment there need not even be aware of the existence of the violently insane cases.

Every man who is physically able to work will be employed upon the farm, and the women will be kept occupied in domestic duties. Small gardens are to be arranged in which some of the women will work, and thus gain the benefit of being in the open air.

The cost of the buildings will be about seven hundred thousand dollars. The necessary expenditure has been materially diminished, as much of the work has been done on the prison farm at Guelph. As a means of recreation, a skating rink has been provided, and two large areas have been allotted as recreation grounds; a church also will be built. The institution will provide accommodation for twelve hundred patients; but the plans have been so arranged that the buildings may be extended in the future to permit of twice this number.

The beauty of the site chosen and the arrangement of the buildings will undoubtedly do much to benefit those undergoing treatment in the new asylum; but the natural beauty of the surroundings will, perhaps, help most of all those who are labouring to help the sufferers placed in their care. Work amongst the insane is, without doubt, the most exacting branch of the medical profession, and those who are engaged in such work surely need all possible assistance that can be given to them.



## THE MUNICIPAL ABATTOIR

THE health of the individual is necessarily dependent in great measure on the food supply, and the danger arising from the consumption of impure meat is a great one. The question which arises is, "How is it possible to ensure a pure and wholesome meat supply?" After an investigation of some months' duration, Dr. Hastings, the medical health officer for Toronto, has issued a report which shows conclusively that the only effective remedy for impure meat is the establishment of a slaughter house which shall be under municipal control. As a result of Dr. Hastings' investigations and conclusions, it has been decided that Toronto shall have a municipal abattoir.

The municipal abattoir is now recognized as the only solution to the meat problem, both in Europe and in the United States. In Germany, any community may erect a public abattoir and, having done so, may prohibit slaughtering except in such abattoir; and, by the meat inspection act of 1900, a thorough system of inspection, both before and after slaughtering, is in vogue. In Italy, all communities of a population of over six thousand are required to construct public abattoirs, and the directors of these abattoirs must be veterinary surgeons. In Holland, in Portugal, and in France, the public abattoir is common, and has proved successful. In England there are over one hundred municipal slaughter houses, but private slaughtering is not prohibited; consequently, the financial success of the English abattoirs is not so great as is that of those on the continent. The first municipal slaughter house to be established on the American continent was that at Paris, Texas.

The advantages to be gained by the establishment of a municipal abattoir are enumerated by Dr. Hastings, and we cannot do better than quote from his report: "It will enable us to secure for every citizen a pure, wholesome meat supply produced under the most sanitary conditions; it will remove

the various nuisances created by slaughter houses in different parts of the city, also the nuisance of driving cattle through the streets from the market to their destination, which is a source of danger to the public, to say nothing of the sufferings of the beasts themselves when the roads are icy or the heat extreme; it will ensure these animals being slaughtered in the most humane way."

The establishment of the municipal abattoir is rendered less difficult by the fact that it is self-supporting, if properly administered. This has been unmistakably demonstrated in European cities, where such slaughter houses have been in existence long enough to give statistics. The greatest source of revenue is from the manufacture of the by-products, which, it is stated, more than pays the cost of any abattoir.

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### THE KENTVILLE SANATORIUM

THE provincial sanatorium at Kentville, N.S., has published its annual report for 1911. The hospital was established in 1904, by the provincial government, for the treatment of early cases of tuberculosis. That the result has been encouraging is seen from the following figures, taken from the report for the past year: fifty-five patients were admitted to the sanatorium; thirty-one per cent. of these were in the incipient stage of the disease; sixty-seven per cent. were moderately advanced cases; and two per cent. were far-advanced cases. Six months later, twenty-six per cent. of these patients were discharged, apparently cured; in sixty-two per cent. the disease was arrested; and ten per cent. were improved, leaving only a balance of two per cent. which showed no improvement.

This result compares favourably with that of other institutions for the treatment of tuberculosis, and shows the importance of early diagnosis and treatment. Great importance is attached by the medical superintendent to the necessity

of sanatorium treatment; it is essential that the patient should first undergo a period of treatment in a sanatorium, after which the treatment may be continued at home.

Ignorance is one of the chief factors in the spread of the disease, and an important step in its prevention is the dissipation of this ignorance, and the education of the patient in matters relating to hygiene, diet, and the necessity for plenty of fresh air, with a moderate amount of exercise. The *early* diagnosis of pulmonary tuberculosis is often difficult for the general practitioner, but is of the utmost importance for successful treatment. Provision is made that any individual in the province of Nova Scotia may go to the sanatorium and be carefully examined, provided he make proper application.

The work of the sanatorium has increased very greatly during the last two years, and an extension is now found to be necessary. Much difficulty was experienced during the first few years after its establishment, owing to the lack of interest in the work to be done, and an insufficient knowledge on the part of both profession and public, as to the best methods of dealing with the disease. This difficulty has been experienced by many institutions, particularly in the early days of their activity. It is suggested by Dr. Macdougall King, in a recent article in the *Public Health Journal*, that much might be done by the Dominion Anti-tuberculosis Association to assist the various local and provincial institutions in the work of preventing the spread of tuberculosis.

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An important addition is to be made to St. Luke's General Hospital at Ottawa. This is to consist of a new wing, which is to be added to the east side of the hospital. The cost of this additional wing will be about one hundred thousand dollars, which is double the original cost of the hospital. St. Luke's Hospital was incorporated in 1897; the founder of the hospital was Dr. H. P. Wright, who bequeathed ten thousand dollars to the institution. The present hospital makes pro-

vision for seventy patients. The accommodation, however, has been far from adequate and, for the last two years, the necessity for enlargement has been becoming more and more evident. During the past year, one thousand three hundred and one patients have been admitted to the hospital; these figures are in striking contrast to those of the first year, when nine hundred and forty-one patients were treated.

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It has been suggested that a municipal icehouse be established in Toronto. The cost of ice has increased greatly and is now prohibitive for the poor, who consequently are unable to preserve food in the hot weather or to keep their milk sweet. This naturally reacts on the health, especially of young children; and it is stated that the infant mortality during the summer months is a direct consequence of these conditions. This fact is true, not of Toronto only but of all the large cities of the Dominion. By the establishment of municipal icehouses and by supplying ice to citizens at cost price, or even free in cases where it is considered necessary to do so, the health of the children of the community might be greatly improved and much suffering prevented during the summer months.

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AN excellent method of purifying drinking water is given in the June issue of the *Toronto Health Bulletin*. It is intended, principally, for use in summer resorts, where the water may not be above suspicion, and reads as follows: "Take a level teaspoonful of chloride of lime and rub it up in a teacup of water until there are no lumps. Dilute this with three cupfuls of water and keep this stock solution in a stoppered bottle for use. A teaspoonful of this solution added to a two-gallon pail of water, and well stirred up, will destroy all typhoid and other dysentery-producing bacilli in ten minutes, and make the water safe to drink. Get chloride of lime in the pound packages with metallic cases (not cardboard cases). The stock solution will keep for a week." The method has been worked out by Dr. Nasmith and Dr. Graham, and is widely used as a preventative of infection through drinking water.

### Book Reviews

LANDMARKS AND SURFACE MARKINGS OF THE HUMAN BODY. By L. BATHE RAWLINGS, M.B., F.R.C.S. (ENG.). Fifth edition, with thirty-one illustrations; price 5s. net. London: H. K. Lewis, 1912.

The English student has always been strong on the subject of "Landmarks and Surface Markings of the Human Body." Innumerable books have been provided for him and he still appears to demand more. But none of the claimants have displaced Rawlings' well-known work. This is the fifth edition and the illustrations are even more ingenious than in previous ones. Also they are very beautifully printed. The book does not pretend to replace a work on anatomy, although there is plenty of anatomy in it, but it really does give, in the form of diagrams, the most of what is important in anatomy.

CLINICAL CHEMISTRY, MICROSCOPY, AND BACTERIOLOGY. By DR. M. KLOPSTOCK AND DR. A. KOWARSKY, of Berlin. Illustrated with 43 textual figures and 16 coloured plates. Price, \$3.00. New York: Rebman Company, 1912.

The Rebman Company have a singular capacity, to which we have called attention on previous occasions, of selecting for translation the best of the books which are written in foreign languages. This manual is no exception to the rule, and it will make a strong appeal for a place in a field which is already well occupied. Many of the laboratory methods are new and impress one by their neatness and simplicity.

THE CARE OF THE INSANE AND HOSPITAL MANAGEMENT. By CHARLES WHITNEY PAGE, M.D. 154 pages; price prepaid, \$1.00. W. M. Leonard, Publisher, Boston.

Dr. Page has familiarized himself with every aspect of insanity during a period which lasted for over forty years. He was one of the first superintendents to insist upon methods which did not imply restraint, and this book is really a summing up of that thesis. It is full of wisdom which is born of experience, and is marked by that wide humanity which actuates all who deal worthily with the insane. The book is one which should be read by members of the profession at large.

### Books Received

The following books have been received, and the courtesy of the publishers in sending them is duly acknowledged. Reviews will be made from time to time of books selected from those which have been received.

A SYSTEM OF TREATMENT BY MANY WRITERS. Edited by ARTHUR LATHAM, M.D., F.R.C.P. (Lond.), and T. CRISP ENGLISH, M.B., B.S. (Lond.), F.R.C.S. (Eng.). Four volumes. Vol. I. General Medicine and Surgery; Vol. II. General Medicine and Surgery; Vol. III. Special Subjects; Vol. IV. Obstetrics and Gynæcology. Price, \$24.00 the set. Toronto: The Macmillan Company of Canada, Ltd., 1912.

DISEASES OF THE EYE. A manual for students and practitioners. By J. HERBERT PARSONS, D.Sc., M.B., B.S., F.R.C.S. Second edition. Price, \$3.50. Toronto: The Macmillan Company of Canada, Ltd., 1912.

AN INDEX OF DIFFERENTIAL DIAGNOSIS OF MAIN SYMPTOMS BY VARIOUS WRITERS. Edited by HERBERT FRENCH, M.A., M.D., (Oxon.), F.R.C.P. (Lond.). With sixteen coloured plates and over two hundred illustrations in the text; price, \$8.00. Toronto: The Macmillan Company of Canada, Ltd., 1912.

A COLLECTION OF PAPERS PUBLISHED PREVIOUS TO 1909. By WILLIAM J. MAYO, M.D., and CHARLES H. MAYO, M.D. Volumes I and II. Price per set, cloth, \$10.00 net. Philadelphia and London: W. B. Saunders Company, 1912. Canadian Agents, The J. F. Hartz Company, Limited, Toronto.

A PRACTICAL TEXT-BOOK ON THE DISEASES OF WOMEN. By ARTHUR H. N. LEWERS, M.D. Seventh edition; illustrated. Price, 12s. 6d. net. London: H. K. Lewis, 1912.

THE CARE OF THE SKIN AND HAIR. By W. A. PUSEY, A.M., M.D. New York and London: D. Appleton & Company, 1912.



## Men and Books

BY SIR WILLIAM OSLER

XIII. THE SCHOOL OF PHYSIC, DUBLIN.\* To have been selected to propose the toast of the evening I take as an honour to the university with which I am associated, Oxford, *mater studiorum* of these Isles in philosophy, theology, and medicine. In reality, the toast has already been proposed, and in fine form, by Dr. Kirkpatrick in the just issued "History of the School of Physic," which the Provost and Fellows have so kindly distributed to their guests; and to enable you to drink the toast with sympathetic intelligence I should have to read to you the four hundred pages of his work. While Trinity College itself has had close affiliations with Cambridge, those of the School of Physic have been rather with Oxford. Stearne, the founder, was a close friend of Seth Ward, of Wadham College, and may have been a member of Boyle's "Invisible College" in those brilliant days when Wallis and Wilkins, Ward and Willis, Wren, Locke, Petty, and others, "investigated nature by way of experiment." John Locke, the most famous name in English philosophy, and the great glory of the college with which I am connected, Christ Church, was a warm friend of the men who began this school—particularly of the Molyneuxs, William and Thomas: William, a philosopher of distinction, and the first man in this country, I believe, to see the capillary circulation; and Thomas, a distinguished physician, the first Irish medical baronet, and an early president of the College of Physicians.

An interesting manuscript in the Bodleian, in Locke's handwriting, contains a correspondence on the subject of vital statistics with two well-known Dublin physicians, Willoughby, a Fellow of Merton College, and Patrick Dun, the moving spirit of his day in the profession of this city—a wise, farseeing man, whose name is perpetuated in the hospital of this School.

But Oxford's greatest gift to Ireland was her professor of anatomy and the vice-principal of Brasenose College, William

\* Toast proposed at the Graduates' Dinner, Bicentenary Celebration of the Trinity College Medical School, July 4th, 1912.

Petty—philosopher, inventor, one of the founders of the Royal Society, promoter of this School of Physic, one of the founders of the science of political economy, author of the "Political Anatomy of Ireland," and of the "Political Arithmetic"; but best remembered in Ireland in connexion with the famous Down Survey. Were there time, I should like to have dwelt upon some of the achievements of this extraordinary man, who came here as physician-general to the army, and who completed in thirteen months a survey which others had estimated would take as many years, and which is to-day "the legal record of the title on which half the land of Ireland is held." Last year chance threw in my way the manuscript letter-book of Petty from 1666 to 1686, and the other evening I found, bound with them, an interesting manuscript of Petty dealing with the famous survey—the agreement with Fleetwood, the names of the officers, and the sums received from them, and the names of the men engaged in the work. The true bibliophile has a keen pleasure in seeing an important document in its proper home, and I have great pleasure, Mr. Provost, in asking you to place this in the library of Trinity College as a slight token of my appreciation of your warm reception of us on this memorable occasion.

We may pass over the dark days of the eighteenth century, in which the school experienced the trials and tribulations so common in the history of all institutions—days brightened, indeed, by the devotion and brilliant work of such men as Barry, Bryan Robinson, and Cleghorn. Then came the glorious period of the first half of the nineteenth century, when the Dublin School reached a zenith of world-wide fame in medicine, midwifery, and surgery. Medicine proper has passed through three phases of activity—the recognition of disease and the means for its cure, the discovery of its causes, and the measures for its prevention. It is the great merit of the Irish school to have taken a first place in the clinical study of disease. You have had many men of the first rank as physicians—Barry, Cheyne, Adams, Whitley Stokes, Corrigan, Hudson, Lyons, Banks—to mention only those whose names I know best, but it is no disparagement to the memory of those distinguished men to say that the imperishable glory of your school is associated with the names of Robert James Graves and William Stokes. Both were men of exceptional culture and refinement, devoted students of the Art, bedside teachers, whose influence is still potent, and authors who raised the fame of Irish medicine to a supreme height. I need say no more. Their works follow them, and are to-day full of lessons for those of us who realize that the best life of the teacher is in super-

vising the personal daily contact of patient with student in the wards.

This is a graduates' dinner, and at last I come to a part of the toast which I know at first hand. Graduates of this school have been much in my life. To usher me into this breathing world one of them came many weary miles through the backwoods of Canada. Across his *tie*, as he called it, John King, M.A., T.C.D., birched into me small Latin and less Greek. I owe my start in the profession to James Bovell, a kinsman and devoted pupil of Graves, while my teacher in Montreal, Palmer Howard, lived, moved, and had his being in his old masters, Graves and Stokes.

From the days of Columba, the Irish of all classes have had a passion to perigrate, and at every step in my career I have met your fellow graduates in Toronto, in Montreal, in many country districts of Canada, in the great cities of the United States, in lonely villages in Virginia and the Carolinas, and now in the very different surroundings of Harley Street and the pleasant villages of the Thames Valley—and everywhere the same intelligent and highly trained men, ever working with the Hippocratic spirit, *caute, caste et probe*, and ever leaving their patients if not in better health, at least in better spirits.

## Res Judicata

### THE EXPLORATORY PUNCTURE

THE puncture for exploratory purposes is usually applied to the pleural cavities, to the spinal canal, to joints, to bursæ, and to superficial collections of fluid, while it is employed but rarely in the case of the pericardium and the peritoneum. The removal of fluid by aspiration is not at this moment under consideration; nor is the use of the puncture needle upon organs such as the liver or the lung, in which the existence of abscess is suspected, after their exposure by operation. There are advocates of the procedure of puncture of the liver and the spleen through the abdominal wall for the detection of parasites, but this is open to various grave objections, especially in the case of the liver, which is apt to bleed, and around which the presence of adhesion can scarcely be predicated. It is rather with the more every-day forms of exploratory puncture that we are here concerned.

The knee joint is the articulation most frequently punctured, and this is a safe, and usually easy, procedure; even in the case of definite and rapid effusions and in the presence of turbid exudate, one is not infrequently disappointed in obtaining cultures therefrom. Where an organism is found, an autogenous vaccine may be made which could not have been otherwise obtained. It will be familiar to some readers that of late the washing-out of joints in rheumatic fever has been advocated. It must be confessed that this seems to consider the arthritis as cause, whereas it may be effect, relative to the general manifestations of the disease; but, at the same time, there are many rheumatic joints that certainly appear as if they would be the better of irrigation.

Paracentesis of the pericardium is rarely done for the purpose of diagnosis, and not very often for the evacuation of fluid that is known to be there. The writer has no experience of it, and by enquiry among colleagues, finds but few who have any knowledge of it. In a case of pericarditis with a definite friction rub which disappears and gives place to a definite and large effusion, the puncture for detection and removal of the fluid would probably appeal to most clinicians as rational and not too difficult; the fact remains that the heart is often punctured by inadvertence, and that a small opening made by free surgical incision is safer and, in the

occasional case of pyopericardium, more efficient. It is only fair to the procedure to say that inadvertent puncture of the heart in the majority of cases is followed by no bad result; but a severe hæmorrhage into the pericardium from the wound of a dilated auricle might be occasioned.

When puncture of the pleura is under consideration, it may be said that, often as it is done, it is not performed too often. A consultant of large practice recently said that most of his consultations concerning diseases of the lungs are solved by the use of the exploratory needle, in which connexion we recall a famous European clinician, who may almost be said to carry an exploring syringe as every one else carries a stethoscope. Within a few months of the time of writing, one of our contemporaries published a formidable series of accidents arising from puncture of the thoracic wall; interesting as such a paper is, it seems more likely to deter the timid than to curb the bold. The mishaps are a very minute percentage of the punctures performed, and are evidently the price mankind must pay for the advantages of paracentesis. It is but just to state that the author says that more harm results in cases in which punctures ought to be made and are not, than in those where the exploration is duly made, a statement that might well be underlined. A wooden flatness in the lung area usually means fluid; the point of the puncture needle may be moved in or out, but ought not to move laterally; if other areas nearby are to be explored, they should be essayed by new punctures through the skin. To puncture the lung rarely causes noticeable harm, and slight pneumothorax is often not dangerous. During and after pneumonia, especially in children, the physician will do well to have recourse to the needle early in cases which do not promptly terminate: a diagnosis of unresolved pneumonia ought never to be made until empyema has been absolutely excluded.

Lumbar puncture is an extremely useful procedure, not only in the diagnosis of meningitis, but also in suspected injury of the skull, where blood in the fluid becomes of the highest import. In cases suspected to be syphilitic, the determination of the globulin content, and the presence of a relatively great number of cells per cubic millimeter may determine the presence of infection. Should the cerebro-spinal fluid be under great pressure, the consensus of opinion is that only a small quantity, 10 c.c., ought to be removed at a time; failure to reach the canal, in the hands of those comparatively unused to the procedure, may result from the use of too short a needle.

Montreal.

J. M.

### Retrospect of Surgery

EXPERIMENTAL INTESTINAL OBSTRUCTION IN DOGS WITH ESPECIAL REFERENCE TO THE CAUSE OF DEATH AND THE TREATMENT BY LARGE AMOUNTS OF NORMAL SALINE SOLUTION. BY HARTWELL AND HOGUET, *Journal of the American Medical Association*, July 13th, 1912, p. 82.

THE paper deals with the cause of death in dogs following intestinal obstruction, by means of a special clamp which produces a complete block of the intestinal lumen without any interference with the circulation through the intestinal wall. From the standpoint of symptoms and length of life, it was found that an uncomplicated intestinal obstruction varied little, whether it occurred high up in the small intestine or near the cæcum. The only difference noted was that in the latter the vomitus was very foul in odour, and, possibly, was in larger quantities. Postoperative life varied from five and a half to ten days, with an average of about seven and a half days, the average duration of life being a few hours longer in that series in which the clamp was applied in the vicinity of the cæcum. At autopsy there was constantly found a more or less marked degeneration of the kidney and liver cells, going on often to actual necrosis. It was remarked that the changes in these organs were the same as those found in various toxic conditions, including that of starvation.

The beneficial effects of subcutaneous injections of saline led the authors to make a study of three dogs, in which the daily output of fluids, that is urine and vomitus, was measured, and a quantity of normal saline, about 100 c.c. in excess of this, injected under the skin. Two of these dogs were kept alive in this way for three full weeks, and one for twenty-six days, during which time they remained in good condition. They were then killed under anæsthesia for post mortem observation. By varying the amount of saline injected, the condition of the dogs could be accurately controlled.

The authors conclude that the important element in the development of the symptoms seen in the intestinal obstruction in dogs, is the loss of water due to vomiting. The symptoms of intoxication are those resulting from tissue disintegration following this loss. Replacement of the water cures the symptoms and prevents death over long periods. If strangulation complicates obstruction, the above facts do not seem to hold true.



**DIFFUSE DILATATION OF THE ŒSOPHAGUS WITHOUT ANATOMIC STENOSIS (CARDIOSPASM): A REPORT OF NINETY-ONE CASES.** BY H. S. PLUMMER, *Journal of the American Medical Association*, June 29th, 1912, p. 2013.

The author classifies one hundred and thirty cases which have come under his observation as follows:

1. Diffuse dilatation of the œsophagus without anatomic stenosis—ninety-one cases. No gross gastric lesions were found in this group and only five of the patients were of a neurotic type.

2. Severe cardiospasm without diffuse dilatation of the œsophagus—two cases. Both patients had periodic attacks, continuing from three to fourteen days, during which they were able to swallow neither liquid nor solid food. The author thinks that in these cases diffuse dilatation of the œsophagus would ultimately have developed.

3. Cardiospasm without diffuse dilatation, but with gross lesions in the stomach—twelve cases. Of these, two patients had ulcer; two, syphilis; five, carcinoma; and three, suspected but not absolutely demonstrated ulcer.

4. Mild cardiospasm without diffuse dilatation of the œsophagus or gastric lesions—twenty-four cases. Almost without exception these patients were of a neurotic type, and many were distinctly hysterical.

The facts that relatively few individuals of a neurotic type and none with gross gastric lesions were noted in the group having diffuse dilatation of the œsophagus, that diffuse dilatation did not follow the cardiospasm in any of the patients with gastric lesions, and that almost constant evidence of an acquired or congenital asthenia was present in the patients with mild spasm without dilatation or gastric lesions, seem to indicate that these groups were of different origins and not very definitely related.

A description of the instrument—a silk-covered, rubber balloon—and the technique employed in the treatment of such cases, was given by the author in the *Journal of the American Medical Association*, August 15th, 1908.

The results of treatment in ninety-one cases are most astonishing. Seventy-three patients were completely relieved of the dysphagia. The pressure employed in effecting dilatation varied from 500 to 675 mm. of mercury. The latter pressure invariably gave marked relief, and in a majority of cases a complete cure followed. It was the routine practice to give the patients two or three treatments and allow them to go home, with instructions to return if there were any recurrence of the dysphagia. In most of

the patients with extreme inanition, one treatment only was needed to effect a complete cure.

RECONSTRUCTION OF THE BILE-DUCTS. BY ARTHUR G. SULLIVAN,  
*Journal of the American Medical Association*, June 29th,  
1912, p. 2026.

Sullivan describes a method for the construction of an intra-abdominal sinus for biliary drainage, which may be employed in cases where the common bile duct has been partially or totally destroyed. The technique is, briefly, as follows:

Into the stump of the hepatic duct an elastic rubber tube is inserted for about half an inch, and securely sutured to it with several unabsorbable sutures. The other end of the tube is pushed down into the duodenum through the stump of the common duct, if possible, or if this is not possible, the tube should project through a small incision in the anterior wall of the duodenum about one-half inch into its lumen. The opening in the duodenum should be sufficiently repaired so that the cut edges snugly encircle the tube. At the point where the tube penetrates the intestinal wall, the tube should be firmly anchored to the duodenum with unabsorbable sutures. The duodenal walls are then sutured over it, so that for a distance of about 2 cm. before the tube penetrates into the intestine, it runs in a canal composed of overlapped duodenum. The tube is then anchored with unabsorbable sutures in several places to the duodenum and the gastro-hepatic omentum. In short, the tube is put in with the idea of keeping it *in situ* as long as possible. The great omentum is then drawn up, and a suitable area is selected with which to cover the exposed surface of the tube. This area is traumatized by drawing a dry sponge over it lightly a few times; similar friction is applied to the duodenum and the gastro-hepatic omentum on either side of the tube. The omentum is then placed so as to cover the tube and extend beyond it a centimetre or two in all directions, and is carefully anchored in position by several catgut sutures.

The rubber tube should have a lumen of not less than a quarter of an inch, and should be soft, pure rubber, resilient enough to retain its shape. Should the structures into which the tube must be passed not admit one of this calibre, stretching it along a stiff sound or a long-shanked forceps, thus decreasing its diameter, will make it possible to insert it easily.

This procedure has been successfully carried out upon several animals, the rubber tube eventually freeing itself and passing into the duodenum. Subsequent biliary obstruction did not develop.

### Obituary

DR. D. M. MURRAY, of Brooklyn, N.Y., was drowned while bathing in Lake Erie, July 21st. Dr. Murray was an expert swimmer, and it is probable that death was due to heart failure. Dr. Murray was the son of Mr. Robert Murray, of Stratford, Ont. He leaves a widow and one child.

DR. DANIEL MUIRHEAD was killed in an automobile accident near North Gower, Ont., July 23rd. The automobile in which Dr. Muirhead was driving with Mr. Norman Cram turned turtle and the doctor was crushed beneath it; death ensued half an hour later. Dr. Muirhead, who was one of the best known physicians in the Ottawa Valley, was about fifty years of age and was unmarried.

DR. N. B. H. Dean, of Brighton, Ont., died June 28th, in the seventy-second year of his age. Dr. Dean was born in the township of Hamilton, and graduated in medicine from Victoria University at the age of twenty; he then took up a practice at Beaverton, where he remained until the outbreak of the American War. During the war, Dr. Dean served as surgeon in the American army, holding the position of assistant surgeon at Lincoln Hospital and, later, that of surgeon in charge at Fort Strong. At the close of the war, Dr. Dean returned to Canada and entered the Kingston Military College, where he obtained a first-class military certificate. In August, 1866, Dr. Dean again took up his profession and settled in Brighton, Ont., where the greater part of his life has been spent. Dr. Dean was a Knight Templar and a member of the I.O.O.F. and the A.O.U.W. He was keenly interested in all that pertained to education and was popular both as a physician and friend. Dr. Dean is survived by a widow and two sons.

DR. W. H. MACDONALD, of Antigonish, N.S., died at the Homewood Sanatorium, Guelph, July 10th. Dr. Macdonald, who was widely known and highly esteemed by all those who knew him, was born at Antigonish and was the son of Dr. Alexander Macdonald. Dr. Macdonald graduated from Harvard University in 1862; he then went to Antigonish and took up his father's practice.

Here he continued to follow his profession until about eighteen months ago, when he became ill. Dr. Macdonald was in his seventy-eighth year, and is survived by a widow, five daughters and two sons.

DR. FREDERICK C. BOYD, of Kingston, died from tuberculosis, July 5th, in the twenty-fourth year of his age. Dr. Boyd graduated as M.D. in 1911, from Queen's University, where he had previously taken his B.A. degree. Dr. Boyd then went to New York and served as house surgeon in the Columbus Hospital until December, when he was obliged to give up his work on account of ill health.

DR. HUGH WALKER died suddenly at Elsinmore, California, July 13th. Dr. Walker, who was in the forty-first year of his age, was born at Belleville and was a graduate of Queen's University.

DR. HUGH ALEXANDER STEWART, of Portage la Prairie, died July 6th. Dr. Stewart was born in Nairn, Ont., in 1863, and graduated as M.A. from Manitoba University, Winnipeg, and as M.D. from Toronto University; he afterwards took a special course in New York. Dr. Stewart then began to practise his profession in Griswold, Man., where he laboured for thirteen years. Seven years ago, owing to ill health, Dr. Stewart was obliged to retire from his profession and death came after a long and trying illness. Dr. Stewart is survived by a widow and four children.

DR. ROLAND S. DEVLIN, of Montreal, died in the Royal Victoria Hospital early on Thursday morning, August 1st. The death of Dr. Devlin, a young and promising physician, occurred under peculiarly sad circumstances. About a fortnight before, Dr. Devlin was shot by John Shepherd in the Turkisk Bath Hotel, at Montreal, while hurrying to the assistance of Frank McKenna, a bar tender, who was shot and instantly killed by Shepherd. It appears that Shepherd suddenly became insane, as the result of injuries which he received some time ago. It had been hoped that Dr. Devlin would recover, and the news of his death came as a shock to his family and his numerous friends. Dr. Devlin was thirty-two years of age and was born in Kingston, where he received his education, graduating from Queen's University some years ago. After receiving his medical degree, Dr. Devlin took several post-

graduate courses in the United States, and the news of his success in passing the Massachusetts state board examination was received by his family on the day following the accident. Although Dr. Devlin had spent much of his time since graduation outside of Canada, he was much liked and highly respected by all the members of the profession in Montreal who knew him.

DR. G. E. MARSHALL, of Peterborough, died from heart failure, August 5th. Dr. Marshall was playing in the Central Ontario Bowling Association tournament, and was competing for the Stratton trophy, when, in the midst of a game, he fell to the ground unconscious. Dr. Marshall was born in Cavan in 1864, and graduated from the Detroit School of Medicine in 1897; he then practised for a number of years in Michigan. On his return to Canada, he graduated from Trinity Medical College, and for the past seven years had practised in Peterborough. Dr. Marshall was extremely popular and was a member of many societies, among them being the Canadian Order of Chosen Friends, the Woodmen of the World, the Independent Order of Foresters, and the Peterborough Orange Association. Dr. Marshall was also an enthusiastic bowler and was president of the Peterborough Bowling Association. He is survived by a widow and three children.

DR. WILLIAM FIELDING BARNES, of New Glasgow, N.S., died from pneumonia, August 5th, in the twenty-fifth year of his age. Dr. Barnes graduated last year from Dalhousie University, and had been practising in Hopewell, N.S.

DR. T. C. WARD, of Napanee, Ontario, died suddenly, July 27th. Dr. Ward was one of the leading physicians in Napanee, and leaves a widow, three daughters and two sons.

DR. S. H. POPE, of West Bothwell, Ontario, was found dead, July 30th. Dr. Pope, who was in the ninety-first year of his age, was walking home from Bothwell when he succumbed, death being due to epilepsy. Two daughters and four sons survive Dr. Pope, one of whom, Dr. George Pope, is practising at Bothwell.

DR. A. F. LEPPER died from quinsy at the Rivers Inlet summer hospital of the Bellavalla Mission, B.C. Much of Dr. Lepper's early life was spent in Toronto, and he graduated from the university there. At the time of his death, Dr. Lepper was working at

the Bellavalla Mission Hospital, and intended to go out to China in the spring.

DR. DANIEL MEAGHER, of Montreal, died from heart disease August 10th. Dr. Meagher was staying at Kingston, and was found dead. He was about sixty-six years of age, and was a graduate of Queen's Medical College.

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## News

### THE ANNUAL MEETING AT EDMONTON

THE names of the members elected to the Executive Council for the ensuing year are as follows:

Dr. F. G. Finley, Montreal; Dr. J. G. Adami, Montreal; Dr. T. B. Whitelaw, Edmonton; Dr. J. Halpenny, Winnipeg; Dr. R. A. Reeve, Toronto; Dr. R. E. McKechnie, Vancouver; Dr. Octavius Weld, Vancouver; Dr. Kennedy, McLeod, Alta.; Dr. Daniels, St. John, N.B.; Dr. A. I. Mader, Halifax; Dr. Alex. Primrose, Toronto; Dr. P. Conroy, Charlottetown; Dr. Young, Saskatoon; Dr. E. Archibald, Montreal; Dr. H. B. Small, Ottawa.

The Finance Committee was elected at the last meeting of the Executive Council, and the names of the members are as follows:

Dr. F. G. Finley, Montreal; Dr. J. G. Adami, Montreal; Dr. Edward Archibald, Montreal; Dr. H. B. Small, Ottawa; Dr. Young, Saskatoon; Dr. A. Primrose, Toronto; Dr. R. E. McKechnie, Vancouver; Dr. A. I. Mader, Halifax.

It was resolved that the Montreal members should form a sub-committee for the transaction of routine business.

The applications of the Medical Societies of Nova Scotia, New Brunswick, Saskatchewan, and British Columbia, for affiliation with the Canadian Medical Association, were granted by the Executive Council. There remains only the Province of Prince Edward Island which is still unaffiliated.

The place of meeting for 1913 is London, Ontario; president-elect, Dr. A. McCallum, Professor of Medicine in London University.

The resignations of Dr. Edward Archibald as general secre-



tary, and Dr. H. B. Small as treasurer, were accepted by the Executive Council with regret. Both of these officers explained that the large increase in the amount of work, arising out of the establishment of the JOURNAL and the increase in membership, had been the only cause of their feeling obliged to tender their resignations.

In his annual report the general secretary suggested that as the work had grown so largely in the past two or three years, it would be advisable to appoint a salaried official to act as secretary and treasurer, and also as assistant to the editor, Dr. Macphail; one who would be able to devote a considerable portion of his time to the association work. This recommendation was cordially approved by the Executive Council, and Dr. W. W. Francis, of Montreal, was appointed. It was left to the Finance Committee to settle the details of his work and the remuneration that should be attached to this threefold position.

It is probable that, when the new Toronto General Hospital, which is being built on College Street, is completed, the present hospital building will be retained as a hospital for the people living in the eastern part of the city.

DR. WILLIAM SLOAN, who for the past fifteen years has been the physician at the Central Prison, Toronto, has resigned. Dr. Sloan, who is eighty years of age, will be succeeded by Dr. James Algie.

DR. J. W. RUSSELL has been appointed associate coroner for Toronto.

THE new wing of the Toronto Isolation Hospital was opened July 13th. This wing, which provides accommodation for one hundred and twenty-five patients, was commenced three years ago and has cost about one hundred thousand dollars. It is connected directly with the old hospital building by an underground passage, and it is intended chiefly for patients suffering from diphtheria. In addition to the new wing, alterations and improvements are to be made to the other buildings of the hospital.

THE twenty-second annual meeting of the directors of the Jubilee Hospital at Victoria, B.C., was held June 28th, 1912. During the past year the hospital has been filled to its utmost capacity, and the public wards have been greatly overcrowded. One thou-

sand four hundred and sixty patients have been treated, that is two hundred and eight more than were treated during the preceding year. An effort is being made to build a new hospital, and one hundred and five thousand dollars towards the amount required has already been collected. It was decided at the meeting of the directors to ask the city council to submit a by-law to the people of Victoria for two hundred thousand dollars to assist in the erection of the suggested hospital.

At a meeting of the Port Hope town council, which took place June 8th, Dr. G. A. Dickinson was appointed medical health officer for Port Hope.

Two thousand two hundred and thirty-nine children were examined during the month of June in the schools of Toronto. Three hundred and eighty-five only of these children were found to be normal and free from physical defects.

Dr. H. W. Hill, director of the investigation into and the suppression of epidemic diseases in Minnesota, has been appointed director of the London College of Preventive Medicine. The college was erected some years ago, and was previously known as the Hygienic Institute.

A MEETING of the South Ontario and Durham Medical Association took place at Oshawa, July 12th. On this occasion an interesting address was given by Dr. Starr, of Toronto, on "The advantages of using metal splints on fractured limbs."

THE opening of the hospital at Penetanguishene, Ontario, took place July 16th.

THE city architect of Toronto has been authorized to prepare plans for the erection and establishment of a municipal abattoir and cooling plant.

OVER seven hundred cases of typhoid fever have been reported in Ottawa. The cause of the outbreak appears to be a break in the intake pipe by which the drinking water has been contaminated.

DURING the month of June thirty-five patients were admitted

to the Oshawa hospitals; twenty-eight patients were discharged, one death and one birth occurred.

DR. J. N. E. BROWN, of Toronto, has been appointed superintendent of the General Hospital at Toronto. Dr. Brown was formerly superintendent of the Toronto General Hospital and for the last two years has been the Secretary of the American Hospital Association.

OWING to the lack of financial support, it has been found impossible to establish the proposed hospital at Windsor, Ontario. A strong desire that a general hospital might be built was expressed last year, but the committee has not been able to collect the necessary funds.

DR. JAMES DOUGLAS, of New York, has donated two thousand five hundred dollars for the purpose of providing, for the next two years, a lecturer in pharmacology and therapeutics at Queen's University, Kingston.

A SIMPLE device for testing milk is used by Dr. Hastings, the medical health officer for Toronto. A sample of the suspected milk is drawn up from the can by a small pump, the mouth of which is covered by a cotton wool disc. This disc gathers up all impurities. In future, all milk which is found to be impure and unfit for consumption will be coloured pink by means of a harmless dye and will be labelled "condemned." This will make it impossible for dealers to sell milk thus condemned.

Two cases of small-pox have been reported in Montreal. The patients were removed at once to the small-pox hospital.

DR. POMINVILLE has been appointed physician at St. Vincent de Paul Penitentiary, Montreal, to succeed Dr. Allaire.

DR. W. E. OGDEN has severed his connexion with the National Sanitarium Association at Gravenhurst, and leaves in September for further medical work abroad.

At a meeting of the health and relief committees of Regina, which took place July 9th, it was decided that a monthly health bulletin should be issued as a means of educating the people concern-

ing the regulations of the department of public health and concerning the best methods of dealing with different nuisances. The medical health officer also stated on this occasion, that arrangements had been made with the government whereby monthly reports of vital statistics would be issued.

DR. E. B. OLIVER has been appointed medical health officer for Fort William.

A WING, consisting of four stories, is to be added to the Kingston General Hospital. The building is to be commenced at once and, it is hoped, will be completed before the winter.

THE plans for the New Westminster city hospital have been approved. The estimated cost of the new hospital is two hundred thousand dollars.

THE building which was used as the Calgary small-pox hospital was burned down July 8th.

DR. C. E. ARTHUR, the medical health officer for Nelson, B.C., in his report for the quarter ending June 30th, 1912, states that "never before have there been so many cases of infectious diseases as at present." Ten cases of mumps, five cases of measles, eight cases of German measles, and nineteen cases of scarlet fever have been reported. All the cases of scarlet fever have occurred in children under twelve years of age. As a means of preventing the further spread of the disease, the moving picture shows have been forbidden to admit children under this age. There is no isolation hospital in Nelson in which cases of infectious disease may be quarantined, and many instances have occurred in which the quarantine regulations have been disobeyed, or in which the case has not been reported at all. When the new hospital is completed, it is proposed to use the present building as an isolation hospital.

DR. J. O. LACHAPELLE has been appointed surgeon of the North-West Mounted Police at Dawson, Yukon. Dr. Cuthbertson has been appointed territorial medical health officer.

THE children's hospital at Winnipeg was formally opened by His Royal Highness the Duke of Connaught, July 17th. The

hospital contains, at present, eight beds, but it is hoped in the near future to increase this number to one hundred and twenty.

DURING the month of June one hundred and sixty-nine patients, suffering from tuberculosis, were admitted to the Royal Edward Institute. Sixty deaths occurred from the disease during the month.

THE following cases of infectious diseases are reported by the medical health officer of St. John, N.B. During the quarter ending June 30th, 1912, six cases of diphtheria, fourteen cases of scarlet fever, seven cases of typhoid fever, one case of measles, one case of variola, and thirty-four cases of tuberculosis, occurred. The total death rate was 18.19, which is slightly in excess of that for the preceding quarter, 17.18. The increase is due to the greater number of deaths which have occurred from tuberculosis. There is no institution in St. John in which cases of advanced tuberculosis may be isolated, and the need for such an institution becomes more and more imperative as time goes on.

THE King Edward Memorial Hospital at Winnipeg was opened by His Royal Highness the Duke of Connaught, July 14th. The Memorial Hospital is to be devoted to the treatment of cases of advanced tuberculosis, and is intended chiefly for those living in the city. Incipient cases will be treated elsewhere. The hospital contains fifty-eight beds. His Royal Highness also laid the foundation stone of the King George Hospital for infectious diseases.

DR. S. BOUCHER has been appointed medical inspector of civic employees in Montreal.

Two more cases of small-pox have been reported in Montreal.

Two cases of leprosy were recently discovered in Montreal and one in Toronto. All three of these cases have been deported to a leper's island in the Pacific Ocean.

THE plans have been prepared for a small-pox hospital which is to be erected at Saskatoon.

As a result of the recent outbreak of typhoid fever in Ottawa, a new system of water supply is to be established. This is to consist

of a mechanical sand filtration plant on Lemieux Island in the Ottawa River, which will be connected with the pumping station in Ottawa by means of a tunnel under the river. The cost of the tunnel is estimated at three hundred thousand dollars, and that of the plant at about seven hundred and fifty thousand.

A NEW quarantine hospital is to be erected at Grosse Isle, Que.

SEVEN hundred dollars have been contributed by the Young Women's Auxiliary at Waterloo towards improvements which are being made in the nurses' home. During the month of June fifty-five admissions were made to the hospital at Waterloo and forty-four patients were discharged.

THE establishment of a hospital for the treatment of tuberculosis at Union, Ontario, is under consideration. It is suggested that the site should be provided by the county of Elgin, and that the hospital should be built and maintained by the Daughters of the Empire.

THE sum of two thousand dollars has been subscribed to the Welland County General Hospital by Dr. Baruch Tucker, of Allandale, Ontario. The money is to be used for the erection of an additional wing to the hospital, or for a separate building, in which patients suffering from tuberculosis may be treated.

DR. A. S. ESTEY, medical health officer of Calgary, has resigned.

A CONFERENCE of the Saskatchewan Medical Association will be held at Moose Jaw, September 3rd, 4th, and 5th. It is intended to affiliate the association with the Canadian Medical Association, as it is thought that it will thus be placed in a position of greater usefulness to the profession.

AT a meeting of the Halifax Board of Health, which took place August 6th, it was recommended that an abattoir be established.

AN addition is being made to the Nova Scotia Hospital at Dartmouth. The new wing will be completed next spring, and will provide for the accommodation of patients suffering from tuberculosis.



THE monthly meeting of the Victoria Hospital at Halifax took place August 5th. During the month of July, thirty-eight patients received treatment, fifteen patients were discharged, and one died. It was decided that the regulations concerning the admission of emergency cases should remain unaltered.

THE regulations of the new Public Health Act, which was passed at the last session of the Ontario legislature, were formally approved of by the government August 8th.

DURING the first week in August, ten cases of typhoid were reported in Toronto; two cases have occurred in Peterborough.

OWING to the increase in the number of cases of typhoid in Ottawa, the Waller Street School has been converted into an emergency hospital; it provides accommodation for forty-five patients.

A LOCAL hospital has been established at Armstrong, Ontario.

AN addition is to be made to the main building of the Hospital for Sick Children at Toronto; the addition will take the form of a wing four storeys in height, and will cost about one hundred and twenty thousand dollars.

THE increased cost of living has led the medical association of Berlin and Waterloo, Ontario, to raise the fees charged for professional visits; in future, the charge per visit is to be from \$1.50 to \$2.00.

THE new wing which is being added to the Berlin and Waterloo Hospital will be completed early in October. The addition, which will contain twenty rooms, will be a material help to the hospital, which has been greatly overcrowded for some time past. An operating suite, consisting of four rooms, has also been provided.

A SPECIAL course of instruction is being given by Dr. J. W. S. McCullough, chief health officer for the province of Ontario, and Dr. John Amyot, who is in charge of the provincial laboratory, to the newly appointed district officers of health. The course will be concluded with examinations at the end of the year.

THE infantile death rate in Montreal is an unfortunately high one, and exceeds that of any other city on this continent. Consequently, one is particularly glad to know that a baby hospital is to be established in Montreal. The hospital will contain one hundred beds and is intended only for infants of less than two years of age.

A THREE-STOREYED hospital is to be established at Sapperton, B.C. The sum of two hundred thousand dollars has been set aside for the purpose.

A MEETING of the medical representatives of the various provinces will be held in Ottawa in October; the medical reciprocity bill will then be discussed.

DURING the month of June, two hundred and ninety-eight patients received treatment in the Regina General Hospital; one hundred and fifty-nine patients were discharged; and nine deaths and fifteen births occurred. In the isolation hospital, twenty-seven patients received treatment and fourteen were discharged.

SMALL-POX is reported to be prevalent in Ancienne and in Jeune Lorette, Que. The type of disease is mild and measures to prevent its further spread are being taken by the provincial health department.

AN isolation hospital is to be established at Renfrew, Ontario. An addition is also to be made to the Victoria Hospital.

A CASE of small-pox has been reported from the Franciscan Monastery, Montreal. The patient was removed at once to the isolation hospital.

THE first International Congress of Comparative Pathology is to be held at the Faculty of Medicine, Paris, October 17th to October 23rd, 1912. The president is Dr. Roger, professor of experimental and comparative pathology of the University of Paris; and the general secretary is Monsieur Grollet, 42 rue de Villejust, Paris. Among others the following subjects will be discussed: tuberculosis, Professor Calmette, Professor Vallée, and M. Chaus-sée; cancer, Professor Menetrier, Dr. Clunet, and Professor Borrel; small-pox and vaccination, M. Chaumier, M. Carrière, and M.

Tomarkin; parasites peculiar to men and animals, M. Weinberg, Professor Deve, Professor Bodin, Professor Perroncito, and M. Morot; nervous affections, Dr. Marchand and Professor Petit; hydrophobia, Dr. Delaunay, Dr. Remlinger, and Professor Babes; comparative study of cirrhoses, Dr. Garnier and Dr. Ravenna; international organization of the struggle against foot-and-mouth disease, Professor Moussu; international organization of the struggle against melitococcy, M. Ch. Dubois; vegetable pathology, M. Blaringhem, Dr. Larcher, and M. Louis Dop.

## Canadian Literature

### ORIGINAL COMMUNICATIONS

*The Canadian Journal of Medicine and Surgery*, August, 1912:

Medical journalism in years gone by . . . W. A. Young.

*Dominion Medical Monthly*, August, 1912:

Some aspects of neurology to general practice

W. A. Turner.

Tetanus . . . . . A. Moir.

*The Canadian Practitioner and Review*, July, 1912:

Graves' disease . . . . . J. W. Crane.

Impressions of the Ninth International Red

Cross Conference . . . . . G. Sterling Ryerson.

The international collective investigation of

Ozæna . . . . . D. J. Gibb Wishart.

Hospital clinics and medical progress . . . John Hunter.

Continuous drainage in oedematous conditions

J. B. Fraser.

Medical thoughts, facts, fads, and foibles . J. S. Sprague.

*The Western Medical News*, May, 1912:

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| Some recent advances in medicine . . . | J. B. Marvin.    |
| Cæsarean Section . . . . .             | E. Gustav Zinke. |

*L'Union Médicale du Canada*, July, 1912:

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| Hémoptysies d'origine nerveuse . . . | Dr. Bourgouin. |
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*Le Journal de Médecine et de Chirurgie*, July, 1912:

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| L'enseignement de l'Ophthalmologie à Londres | Gaston Morin. |
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*The Public Health Journal*, July, 1912:

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| The more important causes underlying the heavy infantile death rate in large cities, and the benefits to be derived from the establishment of milk dépôts . . . | A. D. Blackader.    |
| Child Welfare Exhibitions and their value . . .   | J. G. Adami.        |
| School Buildings . . . . .  | C. P. Band.         |
| Municipal Meat Inspection . . . . .   | T. E. Munce.        |
| How to get and to keep competent health officers: the sanitary inspector . . .  | Thomas Watson.      |
| What the federal government might do to assist in the control of tuberculosis . . .   | D. Macdougall King. |
| Town planning from an architect's point of view . . . . .   | C. P. Meredith.     |

## Medical Societies

### NOVA SCOTIA MEDICAL ASSOCIATION

THE fifty-ninth annual meeting of the Nova Scotia Medical Society was held in the Academy Hall at Truro on Wednesday and Thursday, July 3rd and 4th. After an address of welcome delivered by the mayor of Truro, the president, Dr. H. V. Kent, gave a very able resumé of the work done by medical inspectors in schools in England, in the United States, and in Canada. Several interesting papers were read, among them one on the "Sewage Problem," by Professor T. A. Starkey, of McGill University, Montreal, and one by Professor Harris, of Dalhousie University, entitled "A study of certain vital rhythms." On Thursday evening a banquet was given to members of the society by the physicians of Truro and Colchester County.

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### PRINCE EDWARD ISLAND MEDICAL ASSOCIATION

THE annual meeting of the Prince Edward Island Medical Association took place on Wednesday, July 10th, in the Board of Trade Rooms, Charlottetown. The meeting was in all respects a most successful one.

The following members of the association were present: Drs. Ross, McEwen, Alexander McNeill, A. A. McLellan, J. C. Ballum, J. A. MacPhee, J. C. McDonald, Conroy, Warburton, Jenkins, Carruthers, H. D. Johnson, Dorsey, MacMillan, Yeo, Dewar, and A. A. Macdonald.

Papers and case reports were read as follows: "Notes on General Practice," by Dr. Alexander McNeill; "Drowning: Results of experiments on dogs," by Dr. Ross; Case Reports, by Drs. Conroy, Carruthers, A. A. Macdonald, Yeo, and Dewar. Then followed a discussion upon "The good of the association," opened by Dr. MacMillan. Several resolutions were passed, including one requesting the government to take up the matter of meat inspection. An interesting address was delivered by the president, Dr. Mc-

Lellan. The election of officers for the following year resulted as follows: president, Dr. A. A. Macdonald; vice-president, Prince County, Dr. J. F. McNeill; Queen's County, Dr. G. F. Dewar; King's County, Dr. J. D. McIntyre; secretary, Dr. W. J. MacMillan, (reëlected); treasurer, Dr. P. Conroy (reëlected); executive committee, Dr. P. C. Murphy, Dr. A. Murchison, and Dr. A. Stewart; auditing committee, Dr. G. F. Dewar and Dr. H. D. Johnson. The members of the Medical Council elected by ballot were: Dr. Conroy, Dr. Warburton, Dr. Jenkins, Dr. Carruthers, Dr. H. D. Johnson, Dr. A. McNeill, and Dr. McEwen.

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#### LAMBTON MEDICAL SOCIETY

THE Lambton Medical Society held its monthly meeting at Sarnia, on Wednesday, July 10th. In the morning a clinical meeting was held at the General Hospital, when cases were presented by Dr. Wilkinson, Dr. Bell, Dr. Henderson, and Dr. McDonald. In the afternoon a paper on "Exophthalmic goitre" was read by Dr. McDonald. The next meeting of the society will take place in October at Petrolea.

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#### SASKATCHEWAN MEDICAL ASSOCIATION

THE Saskatchewan Medical Association will meet in Moose Jaw, September 3rd, 4th, and 5th, under the presidency of Dr. S. W. Radcliffe. The secretary-treasurer of the association is Dr. Arthur Wilson, of Regina.

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#### NEW BRUNSWICK MEDICAL SOCIETY

THE thirty-second annual meeting of the New Brunswick Medical Society, held in Moncton, July 16th and 17th, was one of the most successful in the society's history. Dr. C. T. Purdy, Moncton, presided.

The attendance was large and representative, practically every section of the province sending members. A particularly



pleasant feature was the presence of members of the profession from Boston, Chicago, Montreal, and Charlottetown, each of whom contributed towards the programme.

The Moncton members were most hospitable. The mayor of the city welcomed the society to Moncton, and the local committee of arrangements were untiring in their efforts to make every one's stay a pleasant one. An enjoyable dinner was held at the Brunswick Hotel on the evening of the 16th. A large amount of business was discussed, among the most important matters being: work in connexion with medical inspection of schools; the prosecution of the work in connexion with the establishment of municipal institutions for the care of advanced cases of tuberculosis; the recommending that a provincial medical health officer should be appointed; discussion on the control of tuberculosis in rural districts, etc.

The following papers were read: Dr. G. R. J. Crawford, St. John, "Tubercular Laryngitis"; Dr. D. Townsend, River Glade, "Tuberculosis: its Diagnosis and Treatment"; Dr. F. Tooke, Montreal, "Some Complications Attending the Extraction of Senile Cataract."

DISCUSSION: "The Treatment of Infantile Diarrhoea," Dr. T. Walker, St. John; Dr. G. C. Van Wart, Fredericton; Dr. J. D. Lawson, St. Stephen.

Dr. G. G. Meloin, St. John, "The Bacteriology of Typhoid and its Allies"; Dr. Wm. Hutchinson, Montreal, "Tuberculosis of the Genito-Urinary Tract"; Dr. G. L. Tobey, Jr., Boston, "Acute and Chronic Suppuration of the Middle Ear: Complications and Treatment"; Dr. Murray MacLaren, St. John, "Prostatectomy."

DISCUSSION: "The Control of Tuberculosis in Rural Districts"; Dr. F. L. Wetmore, Hampton; Dr. G. W. Fleming, Petitcodiac; Dr. S. C. Murray, Albert.

Dr. J. Clarence Webster, Chicago, "Suggestions as the result of twenty years' experience in Abdominal Surgery"; Dr. W. R. MacAusland, Boston, "Joint Infection" (with lantern slide illustrations); Dr. H. D. Johnson, Charlottetown, "The Eye: its Importance to the General Practitioner"; Dr. A. F. Emery, St. John, "Blood Pressure: the clinical value of the Sphygmomanometer"; Dr. A. B. Atherton, Fredericton, "Report of two cases of Abdominal Surgery."

DISCUSSION: "Cæsarean Section," Dr. A. R. Myers, Moncton; Dr. W. W. White, St. John; Dr. J. Clarence Webster, Chicago.

Officers for 1912-1913, were elected as follows: president,

Dr. G. R. J. Crawford, St. John; first vice-president, Dr. G. C. Van Wart, Fredericton; second vice-president, Dr. G. W. Fleming, Petitcodiac; recording-secretary, Dr. J. S. Bentley, St. John; corresponding-secretary, Dr. F. H. Wetmore, Hampton; treasurer, Dr. T. Walker, St. John; trustees, Dr. T. E. Bishop, St. John; Dr. H. E. Gillmor, St. Martins; Dr. D. D. McDonald, Dorchester.

Dr. Murray MacLaren, St. John, was elected representative from New Brunswick on the Board of Management of the Victoria Order of Nurses of Canada, and Drs. W. W. White, St. John, and A. B. Atherton, Fredericton, on the Dominion Medical Council.

The society will meet in St. John, July 15th and 16th, 1913.

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#### PRINCE ALBERT MEDICAL ASSOCIATION

THE Prince Albert Medical Association was formed August 2nd. The election of officers resulted as follows: president, Dr. J. R. Matheson; vice-president, Dr. Stuart Reid; secretary-treasurer, Dr. F. W. Fournery; executive committee, Dr. Labrecque, Dr. Strong, Dr. MacMillan, and Dr. Moreau.

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THE formal opening of the sanitarium for the treatment of nervous diseases, which has been established at Barrie, Ontario, took place on Saturday, July 6th. Simcoe Hall, which is the name that has been given to the sanitarium, is beautifully situated on the southern hills overlooking the bay and the town of Barrie. The grounds are composed of three terraces, which lead from the building to a large trout pond; they also comprise a bowling green and a tennis court. The building itself is beautifully furnished, and contains fourteen rooms for women patients and twelve for men undergoing treatment. Dr. W. C. Barber is the medical director and among the consulting physicians are the following names: Drs. W. P. Caven, McPhedran, Bruce, Cameron, Machel, McEwen, Adam Wright, Carveth, A. A. MacDonald, H. J. Hamilton, H. Anderson, J. T. Fotheringham, C. K. Clark, J. M. Foster, R. W. Bruce Smith, J. G. Bowles, of Toronto; Drs. Edward Ryan, James Third, and Garret, of Kingston; Drs. J. P. Vrooman, of Napanee; Olmstead, of Hamilton; H. A. McCallum, of London; Professors Barker and Cullen, of Johns Hopkins University, Baltimore; Dr. Carlford, of the Neurological Institute, New York; Dr. Campbell, of Bradford, and Dr. Lewis, of Barrie.